REVIEWS.

Art. X.—*A Practical Treatise on Phthisis Pulmonalis; embracing its Pathology, Causes, Symptoms, and Treatment.* By L. M. Lawson, M. D., Professor of Clinical Medicine in the University of Louisiana, &c. Cincinnati, 1861. 8vo. pp. 557.

The Forms, Complications, Causes, Prevention, and Treatment of Consumption and Bronchitis: comprising also the Causes and Prevention of Scrofula. By James Copland, M. D., F. R. S., &c. London, 1861. 8vo. pp. 440.

Leçons Cliniques sur les Causes et sur le Traitement de la Tuberculisation Pulmonaire, faites à l'Hôtel Dieu (1859). Par Noel Guéneau de Mussy. Paris, 1860. 8vo. pp. 134.

The Physical Examination of the Chest in Pulmonary Consumption and its Intercurrent Diseases. By Somerville Scott Alison, M. D. London, 1861. 8vo. pp. 447.

It would not be surprising that a disease to which one-sixth or one-seventh of the total mortality is owing in a large portion of the civilized world, should form a favourite subject of investigation, were it not that all the genius and industry expended upon it, and all the suggestions of new or modified methods of treating it, have hitherto produced no sensible decrease in its ravages. The discouragement inspired by such reflections tended, no doubt, to limit the number of special treatises relating to it until the introduction of physical methods of examining the lungs rendered the distinction of curable and incurable diseases of these organs comparatively easy to duly instructed observers. The brilliant inventions of Auenbrugger and Laennec gave a new motive to the study, by shedding upon it a novel and unsuspected light, and, illustrated by the cotemporaneous discoveries of morbid anatomy, revealed every step of the process, from the primary alteration of the blood, to the complete disorganization of the lungs, in which the material evidences of the disease consist. When there was apparently nothing more to learn of the grosser elements of phthisis, and the revelations of the microscope and of chemical reagents no longer excited the same hopes, which at first they inspired of penetrating the arcana of its pathogenesis, the disease acquired a fresh interest, and this time a more humane one, in the awakened hope of its curability by medicinal and hygienic means. Naturally enough this latest phase of the subject has been attended with a corresponding activity in the ranks of pretenders to medical knowledge; and for every well founded yet cautiously expressed hope which physicians have ventured to utter, a score of downright assertions, equally false and positive, have issued from the brazen throat of charlatanism.

So thoroughly has the whole subject been examined that little now remains, either in regard to the natural history of phthisis or the value of remedies in its treatment, beyond correcting the errors and more precisely limiting the truths of the one, and rendering the other more generally useful. Not that there are not questions still undecided in regard to it; but, unless it should enjoy a peculiar immunity from the lot of all other subjects, upon which the reason can be exercised, this must always be the case, and the substantial agreement of physicians, both in doctrine and practice, will render such dissidences unimportant. Each practitioner, and each writer on consumption, will entertain views peculiar to himself, and hence every work upon the subject is almost necessarily, and to some extent, defective or erroneous. In forming, therefore, our own medical opinions, in so far as they are to be moulded by books, we must be careful lest, in accepting the sound doctrines they contain, we should become infected by their errors. Against this danger there is no surer protection than in comparing the published results of observation and reasoning with one another. Did we possess a personal knowledge of the writers' character, it would render unnecessary any attempted estimate of their probity, and we should at once reject their evidence, or accept it confidently; but restricted as we chiefly are to the written evidence of their veracity, we cannot do better than adjust their claims to instruct us by their degree of consistency with themselves and with each other.

The most important among the works whose titles are prefixed to this essay, is that of Dr. Lawson. It is the first systematic treatise upon consumption of the lungs, by an American author, and we do it but justice in stating our opinion that it is not inferior to any other in the English language, whether for completeness of elucidation, general accuracy of statement, or a thorough comprehension of the subject. It is written, also, in a style at once simple, clear, and correct,[1] and bears throughout the impress of its author's honest convictions. Indeed, taking it for all in all, it is a work which every practitioner may use as a trustworthy guide in forming his opinions, and directing his treatment in nearly all the forms and stages of tuberculous phthisis. If we thus slightly qualify our general judgment, it is because upon certain points we consider the work to be open to criticism. These we shall particularly examine, on account of their great general interest and practical bearing, as well as because they occur in the work immediately before us.

Dr. Copland's treatise is substantially the Essay on Pulmonary Consumption contained in the third volume of his *Dictionary of Practical Medicine*, and, as such, it must be presumed to be familiar to our readers. It is essentially a compilation, and although very carefully and diligently made, does not present as thoroughly digested an account of the actual condition of this department of medicine, nor as much original observation as we should have expected from a physician of so much eminence as its author. The volume also includes an essay on bronchitis, which it is foreign to our present purpose to notice.

The little work of M. Guéneau de Mussy is an admirable specimen of a certain class of clinical lectures, in which a group of cases merely serves as the text for a didactic discourse upon a particular disease. This departure from the true method and purpose of clinical teaching, which should deal with individual cases only, may sometimes be pardoned when, as in the present instance, it is not only elegantly and eloquently executed, but serves as an occasion for illustrating some important truths.

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[1] Several barbarous orthographical errors which must be charged, we are sure, to the printer, offend the eye, *e. g. fiber* for fibre; *mold* for mould; &c. The formulæ are sometimes combinations in various proportions of English and of pharmaceutical Latin. They should be one or the other exclusively.

In another part of this review we have quoted some not very tender objurgations of Dr. Copland against those writers who put too fine a point upon the art of physical diagnosis, and who "a hair divide 'twixt north and northwest side," in their classification of râles and murmurs. If the eminent author had not written his diatribe until after the appearance of Dr. S. S. Alison's work, who can tell what fulminations he would have launched against it? A volume of four hundred and fifty pages, on the physical examination of the chest in consumption and its intercurrent diseases only! Surely the learned author of the *Dictionary of Practical Medicine* would have found the outrage intolerable, or a bane only to be endured when an antidote was at hand, in the shape of Dr. Chambers' "Drill for Auscultation," where the whole art and mystery is condensed within the limits of a single page, which concludes with this magistral sentence: "All besides this is fancy work, showy, but waste of time."[1] Extremes meet, it is said, and certainly the proverb holds in the present case; for, except as furnishing mere indications for the accomplished adept in physical diagnosis, Dr. Chambers' "Drill" is as useless to the student as the complicated, elaborate, and minute treatise of Dr. Alison, in which the true grain lies buried in a bushel of wordy chaff. But while thus expressing the feeling of exhaustion with which we have waded through his work, stumbling at every step over new-fangled terms which only serve to embarrass the reader, how much soever they may illustrate Dr. Alison's familiarity with his subject, we should be very unjust were we not to accord him a higher place in this department of medicine than is held by any English writer, with the single exception of Dr. Walshe, or to give him credit for remarkable ingenuity in the invention of useful instruments for the exploration of the thoracic organs. Indeed his single improvement of the bin-aural or double stethoscope, (which in its simpler form he justly ascribes to an American physician, Dr. Cammann,) with the remarkable results of its use which he describes, would of itself entitle him to very high commendation. To all advanced cultivators of pulmonary and cardiac pathology, we very sincerely recommend his work, being well convinced that they will find it full of useful, and not a little new information. They can afford to look leniently on its neologisms and forms of expression which no laws of the English language tolerate; *e. g.* "sensorial silence;" "synchronosity;" "*more* annihilating;" "ill pronounced bruit;" "dividedness;" "inflatability;" "bronchnœa" instead of bronchopnœa, for bronchial respiration; "feeble pipe respiration;" an act of "uno-aural audition;" "constrictive character of sound;" "loudish" sound; &c. They can even smile at such original comparisons as "a degree of firmness and resistance such as that of the white part of a loaf of bread two days after it is baked;" or "as firm as the usual plum pudding;" or when they are told of "the loud, forcible, *solid* voice;" that in pectoriloquy "the *letters* of each word seem to be distinctly articulated;" that a percussion blow "is lost *quoad* the lung and air tubes;" of lung "thickly *incorporated* with tubercle;" of "a *quasi* cracked pot sound;" of "an angle of 180°;" and immediately afterwards of "the angle of a straight line" although the qualifying "so to speak" is prefixed to the latter phrase. The uninitiated reader would be somewhat puzzled to explain "a double flattened chest" and "a single flattened chest;" and Laennec would bounce in his grave at the sound of "buzzing, humming, arrow-root, yarn-tearing, fine rolling, and shell bruits." These and a multitude of similar originalities might pass muster, "so to speak," at the bedside, or even in the lecture-room, but they disfigure a didactic treatise, and are altogether unworthy of an M. D. Edin., F. R. C. P., who dates his preface from Grosvenor Square.

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[1] Lancet, March, 1861, p. 307.

It would be easy to lengthen the list of recent works on phthisis, some of which have received the imprimatur of recognized critical authorities, but which are really destitute of every scientific and every moral claim to respect; while others are so redolent of knavery, that when they apply to the "Reviews" for recognition, even the gentlest Aristarchus is compelled to thrust them out of doors.

The term phthisis, which is now restricted to tubercular consumption, was formerly applied to every wasting disease of fatal tendency, and the word tubercle, which at present only signifies a specific morbid deposit, was once used to describe every small and rounded body or projection. Under the name of laryngeal phthisis, Trousseau and Belloc included several different affections, and Dr. Horace Green, of New York, described enlarged follicles as "tubercular," which had nothing in common with tubercles but their shape. The former error was unavoidable in the existing state of pathological knowledge, but the latter is opposed to the conclusions of science, and is employed to support a doctrine not less erroneous in fact than deceptive and pernicious in its practical results. Tubercle is a peculiar morbid product, which is incapable of any higher development, and tends either to a retrograde metamorphosis into calcareous matter, or to softening and elimination.

Dr. Lawson, after describing the physical characteristics of gray and yellow tubercle, says:—

> "It may fairly be questioned whether these products in fact belong to the same class, or whether they are not radically distinct in origin, essential characters, and ultimate tendency." (p. 34.)

Dr. C. Radclyffe Hall has also asserted this distinction in terms quite as clear and emphatic, declaring that when semi-transparent tubercle becomes opaque, and proceeds towards softening, it does not become cheesy like the tubercle, which is *yellow from the first*; that tubercle *may* be opaque and yellow from the first; and that, according to Rokitansky, "gray tubercle never changes into yellow."[1] Whatever qualified opinion the eminent pathologist just named may once have entertained upon the last point, there can be no obscurity about his more matured opinion. We find in the last edition of his *Pathological Anatomy*:—[2]

> "There remains no doubt that, as Laennec taught, gray is transformed into yellow tubercle. . . . The metamorphosis may commence so early, and advance so rapidly, as to make it seem as if the tubercle had been originally formed opaque and yellow."

Lebert's view differs but slightly from this. He says: "Semi-transparent gray granulations are from the first decidedly tuberculous." Yet he adds that he has found in the lungs yellow granulations so minute as only to be rendered visible by a magnifying power of from ten to fifteen diameters, and consequently that they *might* have been deposited originally as yellow tubercles.[3] Yet there is no evidence that these bodies, minute as they were, might not originally have been semi-transparent. There is, rather, a strong probability that they were so, for there is no reason why they should not have undergone the same changes which evidently take place in larger tubercular deposits. The greater includes the less.

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[1] Br. and For. Med. Chir. Rev., Oct. 1855, p. 465.

[2] 3d ed., 1855, i. 296.

[3] Anat. Pathol., fol., i. 329.

Rokitansky, as will be seen below, goes so far as to describe the peculiar changes which take place in the appearance of tubercle, in passing from the gray to the yellow state, the perfect development of the one, and the shrunken and withered aspect of the other; and Dr. Bennett states that the two varieties are composed of similar elements, which are more transparent and less perfectly defined in the first than in the second sort of tubercle.

Our author states that Bayle, who originally described these gray granulations, evidently regarded them as different from ordinary yellow tubercles. But, as Dr. C. R. Hall has shown, Bayle considered to be tubercles such nodules only as were opaque, and by his "granulations" there is to be understood "nothing more than isolated, often thickly disseminated gray tubercles, which happen to be unusually small, hard, and transparent." Dr. Lawson also maintains that "gray semi-transparent granules are inflammatory products," and gives this as one among his reasons for holding them to be different from yellow tubercles. But he qualifies this, which sounds like a rather bold assertion, since Broussaisism is dead and its cabalistic word "inflammation," which was by turns everything or next to nothing, has lost its conjuring power, and he implies, if he does not in so many words declare, that phthisis is a disease of the constitution, and that any cause which debilitates the constitution may provoke the deposit of tubercles. It is not singular, then, that local congestions should occasion an exudation of the aplastic substance with which the blood is charged; and thus that inflammation should become the occasional, but in no wise the efficient cause of tubercular deposits. In other parts of his work (pp. 145, 176, 395), Dr. L. expressly refutes the idea of the inflammatory origin of yellow tubercle; and we think that if he had more carefully weighed the facts of the case, he would have been less inclined to conclude that semi-transparent granules are different from yellow tubercle in this respect. For if it is certain that these granules always precede yellow tubercles, and if the cases where the former exist alone are exclusively those in which death takes place at so early a period after the commencement of the symptoms, that time for the transformation has been wanting, there is no reason whatever why we should not regard gray semi-transparent granulations as identical in nature with yellow tubercles, and differing from them only as the ripe from the unripe fruit, to use Laennec's comparison.

The histology of tubercle is discussed by Dr. Lawson in a carefully prepared chapter, and gives evidence of his own attentive examination of the subject; yet we think that he errs in taking the yellow form as the type of tubercle, when the most authoritative investigators have concluded that it is an altered if not a degenerated state of the original deposit. Rokitansky says of this variety: "It consists essentially of nuclei measuring from $\frac{1}{125}$ to $\frac{1}{100}$ mm. in diameter, which are held together by a viscid cement. There are, besides, uni or poly-nucleated cells, *i. e.*, mother cells which denote an endogenous development and multiplication of the first mentioned elements." (Op. cit., 3d ed.) And, further, in describing the yellow variety, he uses this language: "It consists of a great number of protein molecules in which the elements of the gray tubercle appear turbid, have a yellowish lustre, and are shrivelled, wrinkled, and jagged, and in part, as it were, corroded. These are Lebert's tubercle corpuscles." Our author includes Rokitansky among pathologists who describe nuclei as being occasionally, but not constantly, present, whereas it is evident from the above quotation that he regards them as normal constituents of tubercle. Dr. Lawson also states that Lebert is one of those "who deny the existence of nuclei," whereas, the words of the latter are "*rarement* on y voit de véritables noyaux."[1] This was also the opinion expressed by Rokitansky in the first edition of his work; but it will be seen by the above quotation that he now attributes to tubercle elements which are peculiar to bodies capable of growth, a conclusion which few will adopt, because it appears to be incompatible with the uniform tendency of the tubercular deposit to a more and more degraded condition. The elements referred to by this author are peculiar as well as indicative of an inherent power of growth, but Dr. Lawson, while admitting them to be organic but non-vascular bodies, describes them as being wholly unlike the corpuscles of any other product healthy or morbid, or, in other words, as a specific formation. Dr. Ellis, on the other hand,[2] pronounces these corpuscles to be only shrivelled cells or free nuclei, and that, indeed, tubercle has no special structure. Yet, unable to resist the clinical evidence of the peculiarity of tuberculosis as a morbid process, he attributes to tubercle powers independent of its ascertained physical constitution, illustrating his idea by a reference to the operation of morbid poisons, as syphilis. It is evident, from this brief statement of the discordant facts and opinions of those who have most carefully studied the subject, that the essential nature and even the primary physical conditions of tubercle are virtually unknown.

The mode of development of tubercle is very clearly, and as we think correctly, described by Dr. Lawson. First there is (within or without the pulmonary cells) an exudation of a blastema, in which granules or cytoblasts appear; then each cytoblast becomes invested with a cell membrane, and the organic element of tubercle is complete. The cell, however, possesses life by means of which it is capable of absorbing nutritive material for a limited period, until finally, its vitality being exhausted, disintegration results. This change takes place just in the centre of the mass, because, being farthest removed from the vascular influence, it will be the first to feel the effects of age. As to its nature, Dr. L. adopts the view that it consists essentially in fatty, or, as Virchow calls it, cheesy degeneration. This idea was, we believe, originally suggested by Mandl,[3] who refers to various examples of a similar change which takes place in muscle and other tissues when their vitality is greatly lowered. It is not to be lost sight of, moreover, that in the formation of adipocere, even dead animal matter is susceptible of conversion into a new substance by the operation of moisture alone. The idea that semi-transparent tubercle is essentially different from the yellow form will perhaps account for the absence of any clear account of the origin of yellow tubercle in Dr. Lawson's work, but nearly all other writers agree that gray tubercle gradually grows yellow, the change of colour beginning in its centre, that it then loses its firmness, is impregnated with moisture, and finally is disintegrated and liquefied. As Dr. C. R. Hall has remarked, softening of tubercle essentially consists of two combined modes of disintegration—fatty degeneration and liquefaction.

In the section on cretaceous transformation, Dr. Lawson calls attention to the frequency with which this condition is found in the lungs of persons who die of phthisis, and who have also expectorated cretaceous tubercles. The fact should be particularly borne in mind by those who, in their method of treatment, appear to forget that the pulmonary lesions in consumption are merely the local expression of a cachexia involving the whole economy. In another section the possibility of absorption of tubercle while in a fluid state is held to be a possible event. It is admitted that a demonstration of such a result is in the nature of things impossible, but it is suggested that since tubercle is transmissible through the walls of one set of capillaries, it may return to the circulation through another class. It is not easy to imagine what would be the gain of such a process, for the constitutional cause which determined a first exudation would occasion a second. Besides, it must not be forgotten that it is probably much easier for capillary vessels to secrete a liquid than to absorb a solid, which tubercle becomes immediately it is deposited. Virchow contends that tubercle, after having undergone a complete fatty metamorphosis, becomes capable of reabsorption. Our author alleges that in some cases of commencing phthisis the signs of a certain extent of consolidation may be present at the apex of the lung, which will afterwards be found to indicate a less degree of this change, from which he infers the possibility of the absorption of a tubercular deposit. A similar remark has been made by others. But they seem to forget that the signs in question may all depend upon a limited pneumonia which is excited by the presence of the tubercles, and assumes that subacute form which intercurrent pneumonia of limited extent affects. That such is often the cause of a temporary aggravation of the symptoms and an extension of the space embracing the characteristic physical signs of solidification cannot be called in question. It is also conceivable that in acute tubercular infiltration the liquid portion of the effused blastema may be absorbed; but there is no reason to suppose this possible in reference to the proper tubercular elements; and, moreover, this exudation which usually occurs at the apex of the lung takes place in the primary development of the chronic disease, and therefore slowly and not probably in sufficient quantity to occasion the physical signs in question. When clicking and dry crackling sounds are alone temporarily increased, without any corresponding increase in the area of dulness, we have been accustomed to attribute the phenomena to a limited tubercular capillary bronchitis, which would seem to be a more probable explanation than the presence of a glutinous exudation of tubercle in the air-cells. We are quite willing to admit, hypothetically, the possible occurrence of physical signs of tubercle at the apex of the lung followed by their total disappearance, and depending upon a tuberculous exudation in its primary form, because pathological anatomy exhibits to us occasionally cretified tubercles which have failed to furnish any physical evidence of their presence; but we repeat that there exists no clinical evidence whatever to show that tubercle once formed can ever be removed by absorption.

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[1] Anat. Path., fol. i. 332.
[2] Am. Journ. of Med. Sci., April, 1860, p. 411.
[3] Archives Gén., 5e sér., iii. 414.

Dr. Lawson is of opinion that the cretaceous transformation of tubercle is only due to the absorption of its animal matter, and not at all to the substitution of mineral elements. The latter is, however, the opinion of Copland, and by inference that of Lebert; and we cannot see why it should not be true when we consider how numerous are the cretaceous transformations of fibrinous exudations, and various tumours, including hydatids of the lung in the lower animals, as Mandl points out. Thénard found that crude tubercle contains only three per cent. of mineral matter, while calcified tubercle contains ninety-six per cent. It has, indeed, been suggested that this proof is insufficient unless we know that the original tubercle had not dwindled in size to a corresponding degree. That it should have been originally thirty times larger, which the explanation requires, is, however, totally incredible. Moreover, as Dr. C. R. Hall remarks, among tubercles on serous membranes we frequently find a calcareous nodule as large as any of the neighboring little tubercles, in which it is plain that there is more of earthy matter than could have belonged to the original deposit.

Dr. Lawson describes with great clearness and accuracy the formation of cavities, and the condition of the bronchi and pleura, but omits all notice of the laryngeal lesions. In speaking of the distribution of the deposit, he distinguishes between "true tubercle" and semi-transparent gray granulations, as he does in those portions of the work already noticed, and we cannot but repeat that this view is at variance with the most authoritative teachings of pathological science. In the chapter on pneumonia in its relations to phthisis, the modifying influence of the tubercular constitution and of tubercular deposits upon the grade of pneumonic inflammation is well portrayed, and a distinction correctly drawn between this form of pneumonia and that more limited inflammation of the lung which is directly excited by the presence of tubercles. We cannot, however, subscribe to the statement that pneumonic inflammation of the apex "is observed in the mere *diathesis*, anterior to the development of tubercles." The proof of such a proposition would, we suspect, be difficult to furnish. It would be scarcely less so to demonstrate that in many cases the extent of tubercular deposits in the lungs is regulated by pleuritic adhesions. Such is the author's statement in opposition to the settled belief that pulmonary tubercles themselves excite pleurisy, and very generally to an extent equal to that which they occupy in the lung. He believes rather that the diminished action of a lung compressed by a pleuritic effusion favours the deposit of tubercle within it. But the two propositions do not necessarily exclude one another. Of the first an all-sufficient proof is the extreme rarity of pleuritic adhesions of the upper lobe of the lung independently of tubercle in that part. The danger of tubercular pleurisy is undoubtedly great, as every medical observer will attest. But Dr. Lawson says: "We can scarcely assent to the conclusions of Louis, when he asserts that, with one exception, he *never* knew it entirely cured!" Upon this it may be remarked, first, that Louis does not state a conclusion, but a fact, and further that he expressly qualifies his statement by the remark: "Of course I refer only to grave cases of pleurisy, such as are accompanied with more or less effusion; as for dry pleurisy, it is probably without influence on the progress of the disease." The influence of pleuritic effusion upon the condition of large cavities is occasionally favourable; the compression of the affected lung tends to diminish the wasting discharge, and, under favourable circumstances, may even promote the cicatrization of the part. Two cases are reported, the one of pleurisy and the other of pneumothorax, in which this effect seems to have been produced.[1]

We may here remark that in the work before us no special notice is taken of pneumothorax in connection with phthisis. Speaking of *emphysema* in phthisis, Dr. Lawson, after alluding to the obliteration of the cells by tubercle, says: "Following this condition the adjacent parts take on increased action, and finally become emphysematous." This statement does not harmonize with a previous and correct one that emphysema generally occurs in parts of the lung free from tubercular deposits. Besides, it is difficult to comprehend how any portion of a lung can "take on increased action." Undoubtedly dilatation of the vesicles in phthisis is attributable chiefly to the mechanical effect of coughing. Dr. L.'s observations agree with those of Louis and Rokitansky, in showing the heart to be smaller than natural in phthisis. It is difficult to comprehend how an opposite conclusion could have been arrived at by Hasse and Dr. Boyd.

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[1] Med. Times and Gaz., Aug. 1860, p. 108.

The chapter on the *nature of phthisis* affords a very favourable display of our author's literary research and critical skill. He deals very justly, if not always very gently, with the hypotheses invented by ingenious men to give a scientific colouring to their speculations or their practice. He thus condemns in succession the theory of impaired primary digestion, those of an imperfect development of chyle, of a morbid condition of lymph, of defective respiration, of morbid states of the blood, of a specific poison, of changes in the condition of the albumen and fibrin, of retrograde morphology, of derangement of the organic nervous power, and of inflammation. A very curious piece of reasoning upon this subject is of frequent occurrence in the writings of distinguished medical authors. Many of them speak of scrofula and consumption as if they were essentially the same disease; and, among the sub-titles in Dr. Copland's work, we read "the prevention of the scrofulous taint, the chief source of consumption," yet this writer agrees with Dr. Lawson, Dr. Walshe, and indeed almost every competent authority, in declaring

> "That the manifestation of scrofulous or tubercular disease in the bones or glands, &c., in childhood or youth . . . generally prevents the occurrence of tubercular consumption." (p. 173.)

It is very true that the microscopic and chemical as well as the gross physical qualities of scrofulous matter and tubercle are the same; but the entire symptomatology of scrofula is different from that of phthisis, the one affecting the lungs almost exclusively, and the other quite as exclusively being seated in organs in which tuberculosis apart from phthisis is rare, as the joints, the eyes, the skin, the subcutaneous cellular tissue, and the mucous membranes. Childhood is the age of scrofula, manhood of consumption; Northern and Middle Europe is the region where scrofula and phthisis both abound; while in this country, where the mortality from the latter disease is not less than on the other side of the Atlantic, scrofula is comparatively a rare affection among the native population. As Lebert declares,[1] there is no identity between the two diseases.

The most plausible of the theories above referred to is that of impaired primary digestion.

Morton[2] enumerates among the symptoms which denote the imminence of phthisis, a continued want of appetite without apparent cause, inability to digest the food, and, if much is eaten, oppression at the stomach and weariness of the limbs. This, he adds, "is the very symptom that opens the way to a consumption." Dr. Copland refers to Tissot, as having indicated the relations of indigestion to consumption, and quotes from Dr. A. Smith a passage which appears to warrant this statement. But, on referring to Tissot's works,[3] we find that the first portion of the quotation has no reference to pulmonary or digestive disease, but only to mental excitement; and the second is a paraphrase of a passage in which, indeed, vitiated blood is said to be a cause of consumption in persons of sedentary habits, but there is nothing to imply that its vitiation is the effect of indigestion. Dr. Copland, however, holds that indigestion is an early attendant upon all the forms of the malady, but by this he does not so much imply gastric dyspepsia as deranged assimilation and nutrition, a condition which, we presume, can only be inferred to exist by the occurrence of emaciation. Dr. E. Lee[1] tells us that many children and many patients who have passed the age of puberty become consumptive although digestion is well performed, and on the other hand but few dyspeptics become consumptive, unless predisposed to the disease, or exposed to some one of its active causes. Dr. Walshe says: "I have not met with any marked illustration of the lamentable details concerning phthisical dyspepsia supplied by some authors," but he coincides with Dr. Copland in recognizing the patent fact that the secondary processes of digestion are at fault. We can but repeat that this fact is expressed in ordinary language by the word emaciation. Dr. Budd has carefully described the gastric derangements accompanying phthisis,[2] as Louis had long ago done; but neither of these writers refers to dyspepsia as preceding the pulmonary and general symptoms of consumption. Dr. Flint has observed no connection between dyspepsia and tuberculous disease of the lungs, but on the contrary is disposed to regard the existence of the former as rendering that of the latter improbable.[3] De Mussy remarks that indigestion is a symptom common to all serious diseases, whether acute or chronic, and although it often attends the commencement of phthisis cannot be said to produce it.[4]

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[1] Handbuch der praktischen Medicin, I. 511.

[2] Phthisiologia, p. 70.

[3] Œuvres Compl. tom. iii. p. 28 and p. 58.

Our author has examined this question with particular care. He points out the want of agreement among those who adopt the affirmative, and dwells upon the conclusive fact, cited as we have seen by others, that, as a general rule, dyspepsia does not exist in persons who become the subjects of tubercular consumption, and that on the other hand dyspepsia is an extremely common disease where there is no evidence either of the diathesis or of the existence of phthisis.

> "We feel authorized," he concludes, "to reject the gastric theory as wholly incapable of explaining the origin of many, or even of any large proportion of cases of phthisis; but, as a mere symptom, or in a therapeutical point of view, the derangements of digestion become vastly important."

As for the theory which refers tuberculosis to a defective elaboration of chyle in consequence of a disturbance of the normal relations between fat and albumen, which is supposed to result in the imperfect formation of the chyle-corpuscles, a theory which has been very ingeniously advocated by Dr. Bennett, our author very pertinently objects to it that we have no proof of the assertion that tubercle depends on an absence of the fatty element, or that an excess of acid exists in the stomach of persons attacked with phthisis, so as to impede the assimilation of fat. He might have added, further, that many consumptive patients do perfectly digest fatty food, and increase in weight by the use of it, while all the time the tuberculous degeneration of the lungs is steadily advancing.

While rejecting the theories above referred to as sufficient explanations of the origin of tuberculosis, Dr. Lawson very properly concedes the occasional agency of the causes which they embrace in developing the disease, while he regards them as being still more commonly effects or symptoms of the primary lesion. His own speculations upon this subject constitute a very interesting episode in the work, and are adapted to inspire an extremely favourable opinion of the author's pathological knowledge and dialectic skill. A brief summary of them will not be uninteresting.

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[1] Fiske Fund Prize Essay, p. 35.

[2] Med. Times and Gaz., Aug. 1858, p. 131.

[3] Dis. of the Respiratory Organs, p. 496.

[4] Op. cit., p. 30.

Dr. Lawson sets out by selecting for examination those cases only of phthisis in which the disease has been developed by its own inherent power rather than under the influence of external causes. All matters contained in the blood, and which cannot be assimilated, are eliminated through certain organs rather than others, *e. g.*, the typhoid poison through Peyer's glands, that of the eruptive fevers proper through the skin, diabetic sugar through the kidneys, &c. In each of these diseases we see the same group of phenomena recurring in the same way, and hence we must conclude that in each case a specific cause is in operation. Now tuberculosis is a specific affection, and very probably, though not demonstrably, tubercle is a specific materies morbi. It certainly is "a specific or peculiar product wholly unlike fibrin, albumen, casein, or other known compounds." Dr. L. shows that it does not originate probably in the chyle or the blood, and consequently that it must have its origin in the metamorphosis of the tissues. The products of this process are nitrogenous and carbonaceous; the former are eliminated by the kidneys, and the latter in part by the lungs. Here the author concludes, that the metamorphosis of the tissues may give rise to an elementary form of tuberculous matter of so subtle a character as to elude the researches of the chemist and the microscopist, but which may accumulate in the lungs. He admits that this is a hypothetical view, but adduces in its defence the analogies drawn from diseases admitted to depend upon a virus, which, however, cannot be detected in the blood, and also the observation that even when urea is known to exist in the blood of animals subjected to appropriate experiments, a certain time must be allowed for it to accumulate after its escape from the kidneys has been prevented, before its presence in the circulating fluid can be demonstrated.

The identity or close similarity of scrofula and phthisis, which he maintains in common with the greater number of pathologists, but in opposition to Lebert and others, furnishes an argument in support of his doctrine. In the latter, he affirms, the morbid element enters the venous radicles and reaches chiefly the lungs; in the former, it enters the lymphatics and affects the glands. Now, as the two affections rarely coexist, as indeed for the most part they occur originally at different periods of life, it is not improbable, says Dr. L., that the manifestations of scrofula in the skin, glands, &c., may save the lungs from a development in them of tubercles. He does not suggest any reasons why the two forms of disease should occur at different ages, but one might perhaps be found in the great development of the lymphatic system in youth; nor does he consider the obvious objection, that tuberculosis, as distinguished from scrofulosis, is very common even from intra-uterine life through all the stages which precede adult maturity.

The formation of a specific tubercular substance, and its elimination without deposit in the tissues, constitutes for Dr. L. the "precursory stage" of phthisis, and it would be quite consistent with the hypothesis to suppose that accidental circumstances, and among them inflammation of the lung substance itself, might cause a deposit of tubercle which else would have escaped. This, however, our author does not venture to assert, but candidly admits that the deposit is not the product of ordinary inflammation. We would suggest that it is in accordance with his hypothesis that tubercular deposits should occur most frequently at the summit of the lungs, for that is the part least moved during respiration, and further that the disease is pretty certainly most common among those persons whose habits are inconsistent with the free play of these organs.

The conditions which favour the development of tubercle, or, in general, the *Etiology of Tuberculosis*, forms a very interesting chapter in the history of the disease, and one indeed which calls for even a more thorough study than the disease itself, because from it we may perhaps learn how to prevent what our therapeutic means are incompetent to cure. In studying the influence of climate, Dr. Lawson makes a remark upon a point which has too generally been disregarded, which is that this influence is to be measured not by the sickness and mortality of travellers, troops, and other foreigners, but by those of the natives of any place. He also calls attention to the important fact that the disease is most prevalent in the temperate regions of the globe, but comparatively rare in the Torrid and Frigid Zones. Within the former there is no place free from the ravages of consumption, and often, as at Nice, its endemic mortality ranges very high even in a climate which is considered propitious to strangers who are suffering from the disease. In Asia it appears to be comparatively infrequent, and in Africa even more so. The elaborate tables prepared by the author from the U. S. Census of 1850 show that in the Eastern States the proportion to the population of deaths by phthisis is 1 : 347; in the Middle States 1 : 548; in the Western north of the Ohio 1 : 911; in the Western south of the Ohio, 1 : 1585; and in the Southern, 1 : 1898. Hence the mortality from phthisis increases progressively from South to North, and is nearly five times as great in N. England as in the S. W. States.

Another great fact which has been brought out by the climatological investigations of recent years, is that dryness of the atmosphere is the one element which renders a climate inapt to generate tuberculous diseases, and moisture the one which, whether associated with heat or cold, is the agent which chiefly develops and fosters them.

In the section on "Occupation in relation to phthisis," Dr. Lawson refers to the inhalation of irritating particles as a cause of the disease: although he subsequently remarks that in the absence of both the hereditary diathesis and the acquired predisposition, this cause will be far more likely to develop simple inflammation than tubercles. Indeed, he quotes Dr. Holland, of Sheffield, to prove that phthisis is the least frequent among the various pathological conditions which occur in the grinders of that city. As the class of facts here referred to bears upon the question of the influence exerted by inflammation and irritation in producing tubercle, it may not be amiss to refer to some of those which are directly related to it. Dr. Alison states that "there is hardly an instance of a mason employed in hewing stones in the vicinity of Edinburgh, living free from phthisical symptoms to the age of fifty. Nevertheless, tubercles were not found in the lungs of those who were examined after death." Dr. J. C. Hall, whose opportunities for studying the affection in Sheffield itself were peculiarly great, says, "there is no necessary connection between this disease and thoracic consumption. It is possible the two diseases may exist in the same individual, but the connection is purely accidental."[1] And he remarks again, "the disease is in fact chronic bronchitis, followed as a matter of course by dilatation of the tubes, and, at last, inflammatory destruction and excavation of the substance of the lung takes place." A precisely similar and detailed description is furnished by M. Desayvres of the disease which affects the grinders at the manufactory of arms at Chatellerault.[1] Oppert, also, speaking of the analogous disease affecting coal miners, remarks that it occurs without as well as with tuberculosis, and appears to exert rather a favourable influence upon the latter.[2]

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[1] On Thoracic Consumption, p. 49.

Our author quotes Dr. Peacock as stating that the particles inhaled by the workers in French burrstone "are remarkably prone to induce phthisis, and especially so if any constitutional predisposition to the disease exist." But there is nothing in the paper referred to,[3] nor in a subsequent report by the same author,[4] to prove the special influence of the directly irritant cause in producing tubercular disease. This, as well as the confinement, dampness, and fatigue, attendant on their labour, and the dissolute habits in which the workmen indulge, are all causes of a depressing nature abundantly sufficient to develop consumption in those who are predisposed to it, and it does not appear that more cases of this disease occur among them than can be thus accounted for without invoking direct mechanical irritation, which in the majority of cases produced fatal effects without the intervention of tubercular disease.

In the chapter upon *Ingesta in relation to phthisis*, Dr. Lawson makes the following statement:—

> "It has been estimated that the inhabitants of Paris consume six times as much animal food as those of London, and yet consumption is more common in the former than the latter city."

We can not but ask ourselves whether the order of naming the two cities has not been inverted. The English are as proverbially beef-eating as the French are bread-eating; and the ordinary statements of mortality from phthisis show Paris and London to be in this respect upon an almost equally bad eminence. (Casper.)

In examining the influence of alcoholic drinks upon phthisis, Dr. Lawson makes the just remark which intemperate apostles of temperance would do well to heed, that the effects of the use and the abuse of these drinks are constantly confounded. He shows that several independent observers have found in post-mortem examinations of intemperate persons a much smaller proportion of tuberculous deposits in their lungs than in those of other persons. He remarks, further, that it is not easy to separate the influence on the health of intemperance and its attendant evils, the exposure, fatigue, bad and insufficient food, &c., and that if alcoholic drinks do really contribute *per se* to the induction of phthisis, we ought to find among its votaries who have been ruined by it in health and estate an excessive proportion of deaths by consumption. But this result, says Dr. L., has not been observed; on the contrary, we may add, the conviction is strong that the very opposite result has been produced. It has not been remarked, so far as we know, that the temperament and constitution which lead to the abuse of alcoholic drinks are antagonistic, as it were, to those which belong to the phthisical diathesis. The sanguine are fond of excitement and of the associations which lead to convivial excesses; but the nervo-lymphatic, of small appetite and feeble digestion, and who court quiet and loneliness rather than scenes of boisterous mirth, are the predestined victims of consumption. If these persons fall into habits of intoxication, they rapidly become dyspeptic, wasted, and feeble, and tuberculosis soon follows. Those of the other class, on the contrary, are more liable, as Dr. L. remarks, to fall victims sooner or later to diseases of the digestive organs, the kidneys, or the brain. Dr. N. S. Davis, of Chicago,[1] has endeavoured to throw light upon this inquiry by ascertaining the previous habits in regard to alcoholic drinks in 210 cases of consumption. But evidently they are not pertinent to the matter. As stated, they were all cases of phthisis. Now the question is not how many out of a certain number of consumptives indulge in alcohol, but how many out of a certain number of alcohol drinkers become phthisical, and whether that number represents a greater or a less proportion than become so among persons who eschew alcohol in every shape? A definite answer would, we suspect, be impossible, but the elements for making an approximative one are stated above.

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[1] Archives gén., 5ème sér., iii. 718.

[2] Prager Vierteljahrs., lxi., Anal. 26.

[3] Br. and For. Med.-Chir. Rev., Jan. 1860.

[4] Med. Times and Gaz., Oct. 1860, p. 418.

The relation of *inflammatory affections* of the lungs to tubercular consumption is a very interesting one. It was very natural, before the true nature of the disease was understood, and afterwards even until the means of detecting its earliest traces were discovered, that diseases which had so much in common as chronic bronchitis, chronic pneumonia, and chronic phthisis on the one hand, and on the other the acute forms of these diseases should be mistaken for one another. Every one acquainted with physical diagnosis is called upon, even now, to witness similar blunders of incompetent physicians, to see phthisis mistaken for bronchitis, and to learn how readily the error may be committed of attributing the former to an original attack of the latter. Morton, with his characteristic sagacity, avoided it; yet he did not fail to recognize the fact that *acute* phthisis is sometimes lighted up by pulmonary inflammation. His words are these:—

> "It is easy to observe that a dry cough and a very acute consumption do often come from an inflammation of the lungs, a pleurisy, or some other disease of the lungs. . . . In those places where the inflammation has before for some time prevailed, there are hard tubercles to be found, dispersed up and down, together with a dry cough and a continual hectic fever; from whence such patients being once seized with a very acute consumption, die within a few weeks."[2]

And that other greatest among the masters in this domain, Laennec, makes use of the following exquisite illustration:—

> "And thus, to avail myself of a metaphor which is, perhaps, not so foreign to the present subject as at first sight it may appear, on land which is worked after having long lain fallow—or been left to itself after several years of culture—we may observe that a multitude of seeds germinate, which for years had been concealed in its bosom."[3]

Morton would appear to have thought inflammation the efficient, but Laennec only the occasional or exciting cause of tubercles. Laennec regarded even this coincidence as rare, declaring that in nineteen-twentieths of the cases in which the two conditions existed, the inflammation was excited by the presence of the tubercles. Louis dwells particularly on the different seats occupied by inflammation and by tubercle in the lung—the former occupying the lower, but the latter the upper portions of the organ. Grisolle enters more fully into detail, particularly as regards pneumonia, and proves that phthisis rarely follows immediately upon pneumonia; that even then there is more reason to believe the latter an effect of tubercles than a cause of them; and that in infinitely rare cases where miliary tubercles have appeared to be developed in a hepatized lung, the pneumonia has acted as an exciting and not as the efficient cause. Dr. Copland states that frequent attacks of inflammation of the lungs may develop phthisis in scrofulous and lymphatic persons, but that it is not necessarily a consequence of these affections. Lebert declares that they rarely have such an influence, and adds, "I am unable to comprehend how so unfounded an assertion came to be received as a general dogma, were it not that the most of our observers are too much afraid to open their lips to gainsay any of the numerous popes who fabricate articles of faith for our medical creed."[1] M. de Mussy is among those who regard the acute inflammatory affection as something more than an agency which, acting on the system at large, merely arouses the latent tuberculous diathesis into action. He says, "Under the influence of the diathesis this morbid irritation of the lung, instead of terminating in resolution, ends in the production of a heteromorphous deposit, the tubercle." It is sufficient to reply, as has been done ever since the days of Bayle, that bronchitis affects the lower lobes of the lungs, but tubercles are deposited at their summits. With the decisive opinions of the great masters in pathology against the doctrine in question, and our own observations in full accordance with theirs, we cannot subscribe to the conclusion which Dr. Lawson draws from his experience: "That a large number of cases of phthisis have their starting-point in an inflammatory affection involving some of the pulmonary structures." (p. 276.) His own illustrations do not, we think, sustain him in this position; and, we may add, his own expressions in other places. Thus, when speaking of the alleged inflammatory origin of tubercles, he says:—

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[1] Trans. Am. Med. Assoc., xiii. 565.

[2] Op. cit., p. 91; vide, also, p. 121.

[3] Op. cit., ii. 71.

> "All of the phenomena of the disease pointedly contradict this hypothesis." (p. 145.) And, again: "While we admit, therefore, the occasional occurrence of tubercles as a sequence of pneumonia, independent of a diathetic state, it must be stated that such a result is most usually met with in those having some hereditary predisposition to tuberculosis." (p. 278.)

To this, no objection can possibly be made. It must be admitted that certain forms of disease tend to develop tubercles in the lungs, but they are not exclusively, nor even principally such as spend their force upon these organs.[2]

The influence of *malaria* upon phthisis has been much discussed of late years, and a belief in its beneficial or antagonistic qualities been very strongly expressed by Dr. Walshe. After a candid discussion of the principal data of the question, Dr. Lawson arrives at an affirmative conclusion, and states his belief "in some degree of antagonism between marsh miasmata and tuberculosis." It would seem, on the whole, however, that the remedy, if it be one, is worse than the disease; for death by phthisis would be far preferable to dragging out a life rendered wretched and intolerable by the cachexia of marsh malaria. In analyzing the materials made use of by writers upon this topic, we have been struck with the frequent references made to malarious localities, in which it is said phthisis is of rare occurrence, without, however, any reference to their being situated in warm regions, where, under a general law, phthisis must be comparatively infrequent. All such instances, it is evident, have no bearing upon the question. Nor is it sufficiently clear that one reason of the apparent immunity from phthisis of the inhabitants of certain places is not the death by malarious diseases of the greater number of those who, from constitutional debility, would have been the fated victims of consumption. Dr. Lawson does not refer to a valuable paper upon this subject, by Dr. Peacock,[1] who sums up the matter in these words :—

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[1] Handbuch, ii. 139.

[2] The essential independence of tuberculosis and inflammation is demonstrated in an able paper by SAMUEL LEWIS, M. D., in the Philad. Med. Exam., March, 1854, p. 146.

> "The correct inference would appear to be that the influence, if any, exerted on the prevalence of consumption, by a malarious atmosphere or by ague, is far less important than that of various other causes which affect the development of that disease. The practical conclusion also to be arrived at is, that as phthisical patients may take ague, and as such complication materially aggravates the original disease, we should, in selecting residences for consumptive patients, avoid those situations which are marshy, or in which aguish affections are known to prevail."

The *contagion* of phthisis is a subject not alluded to by Dr. Lawson. Dr. Copland reminds us that the disease is stated by Aristotle to be contagious, and that Baillou mentions its being communicated by patients to their nurses; he also adds that emanations from persons in the second and third stages of the disease "are certainly sometimes productive of consumption," and he rebukes the scepticism of those who think themselves "strong-minded" because of their incredulity. Mórton declares that, like a contagious fever, it does infect those that lie with the sick person. Laennec reminds us that Morgagni was so persuaded of its contagiousness, that he dreaded to examine the bodies of those who died of it; and, after relating how in other countries it is popularly believed to be contagious, and that the bedding and clothing of the deceased are destroyed by fire in order to prevent this evil, he adds, with a touch of banter, that "in France, at least, it appears not to possess contagious qualities." He then relates how, twenty years before, he accidentally inoculated himself on the hand, while dissecting a tuberculous bone, and in the course of a week a little tumour formed, which, on being cauterized, discharged a mass which closely resembled yellow crude tubercle. We recall this anecdote for the purpose of appending to it M. de Mussy's commentary:—

> "Laennec," he says, "was inoculated with tubercle, as were Alibert and Biett with cancer. Because there were no local effects, all three concluded that these diseases are not transmissible by inoculation; yet Laennec died of consumption, and Alibert and Biett of cancer."

This writer also adduces two cases of men of robust constitution and amply developed chest, who became tuberculous after cohabiting with consumptive females, and two others in which the disease appeared to be communicated, under similar circumstances, to males. Dr. M. Cormac denies that consumption is any more contagious than a fractured limb. Yet he saw mothers seized with phthisis after nursing consumptive sons and daughters, sisters after having waited on sisters, brothers after succouring brothers. We shall never forget a case of the sort which we once met with. A widow, fifty-five years of age, thin, active, hardy, the very type of toughness in constitution, had many years before lost her husband with phthisis, and was about to lose a daughter of seventeen with the same disease. A few hours before the girl died her head lay in such a position upon her mother's shoulder that the latter could not avoid inhaling her daughter's breath.

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[1] Br. and For. Med.-Chir. Rev., Jan. 1859, p. 202.

She described it as causing an acrid sensation in her throat and a taste which she was unable to get rid of. In about a fortnight she began to cough, soon afterwards had hæmoptysis, and within six months died of advanced consumption of the lungs. This may have been a coincidence, and so may the death by phthisis of the first two resident physicians of the Brompton Hospital for consumption, and the seven cases referred to in this connection by Dr. Leared.[1] It may be that all such instances are explicable upon the ground that the individuals attacked would have been so at any rate; for, certainly, the liability of most persons to this malady is greater than it is to any other cause of death. Nevertheless, the individual cases above referred to, and others which the experience of any physician who frequently treats the disease in private practice will furnish, are sufficient to justify Dr. Copland's rebuke, and to inculcate the duty of our preventing all unnecessarily close contact of the healthy with those who are in the advanced stages of consumption.

The subject of the influence of *pregnancy* upon phthisis is naturally one which interests every physician in his professional or personal relations. It is well known to be a commonly received opinion, that pregnancy suspends the progress of phthisis, an opinion which has been strongly controverted of late years, but quite as zealously defended. But in the defence the ground of the discussion is sometimes more adroitly than fairly shifted, by arguments referring to the phthisical constitution rather than to phthisis itself. Thus, Montgomery[2] says: "My own experience would lead me to the conclusion that if a woman predisposed to phthisis, but in whom the disease has not actually become developed, prove pregnant, she is likely to be benefited thereby; and I think I have seen life thus prolonged for years, in several instances." So, Dr. E. Warren[3] declares: "My object has been to show that pregnancy *prevents the development* of tubercles in *those predisposed to phthisis;*" and Dr. Lawson remarks: "It is my conviction that in the tubercular predisposition, or even the *precursory* stage of phthisis, the occurrence of pregnancy under favourable circumstances, and frequently repeated, so changes the vital actions as to delay, or entirely arrest the impending local deposits." On the other hand, Dr. Montgomery remarks, "If pregnancy takes place in a woman already actually in consumption, or if this disease supervene on pregnancy, the fatal issue is as likely to be accelerated as postponed, or, perhaps, even more so." Dr. Warren, after announcing his proposition as above, says that the objectors "have laboured to prove that pregnancy does not ARREST phthisis itself, *when actually established*"—a statement, therefore, which he does not formally contradict; and Dr. Lawson, in regard to "this influence exercised by pregnancy over the *progress* of tubercles after they are deposited," expresses the opinion that if the tubercles are recent, few, and crude, and the strength and digestion of the patient good, the puerperal state [? pregnancy] may retard the progress of the local disease; but on the other hand, if the deposits are extensive and softened, the influence of gestation will almost inevitably prove injurious.

Now, the first proposition, defended by the writers just quoted, will appear, upon a moment's consideration, to have little or no bearing upon the question to be decided. Their assertions and their arguments amount to this, merely, that a *predisposition* to phthisis is not converted by pregnancy into consumption. But in what does a predisposition to phthisis consist? Is there a single infallible sign of the mere imminence of the disease? Do we not constantly meet with persons who appear to possess all the physical characteristics of the phthisical constitution, and who, yet, for many years, or altogether, escape the disease? If females of this description bear children without suffering from tubercles, it merely proves their diathesis to be less decided than it seemed. The second proposition, in fact, yields the whole question. All of the writers referred to admit, or do not venture to deny, that actual tuberculosis of the lungs is not retarded or favourably modified by pregnancy. Dr. Lawson does, indeed, say that if the tubercular deposit is limited and quiescent, and the general symptoms slight, pregnancy may retard the progress of consumption. But it is plain that those very conditions insure a slow progress of the disease independently of pregnancy.

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[1] Med. Times and Gaz., Oct. 1856, p. 362.
[2] Signs and Symptoms of Pregnancy, 2d ed., p. 46.
[3] Prize Essay, p. 38.

The well-known contributions of Grisolle and Dubreuilh to a positive basis of knowledge upon this subject, are opposed to the general conclusions of our author. The former of these gentlemen has recorded thirty-five, and the latter thirteen cases suitable for the solution of the question in hand. Now, if the evidence furnished by these cases were indefinite or ambiguous, they might be set aside; but so far from being of this character, they all, without a single exception, agree in proving that pregnancy does not suspend the progress of consumption.[1] Even more, they show that it does not modify materially the principal symptoms of the disease. It also appears, from the cases above referred to, that, while occasionally phthisis may suddenly declare itself, or else rapidly grow worse, after delivery, as it does during the convalescence from various acute diseases, yet in by far the greater number the disease pursues its regular course, and in half of those who were delivered during the first or at the beginning of the second stage of the disease, the symptoms underwent a decided improvement. Dr. Lawson remarks on these conclusions of Grisolle that it is "utterly inconceivable" that pregnancy should hasten, but parturition restrain or arrest the progress of phthisis. We beg leave to remark, however, that the statement of Grisolle is not one of opinion, but of fact, and that if *le vrai n'est pas toujours le vraisemblable*, so *le vraisemblable n'est pas toujours le vrai.*

A somewhat distinctive feature in Dr. Lawson's treatise consists in his ascribing to phthisis, and therefore in his introducing into its history certain preliminary and, as we may say, premonitory indications of a tendency to it, and, also, of its approach. The former he styles the tuberculous *constitution*, objecting to the term *diathesis*, as being used to designate not a morbid condition, but a mere tendency to disease. We greatly err if the definitions are exact. The former term, constitution, is never applied to a morbid condition, while diathesis invariably includes the idea of such a state, actual or potential. Now this "constitution" is manifested, we are told, in tangible modifications of structure or function which indicate a departure from the physiological type. As the author passes them in review, however, they mock the mental apprehension like dissolving pictures. We are assured, in as many words, "that there are no certain and infallible external indications of the tuberculous constitution." The tubercular dyspepsia of Philip, and Todd, and Bennett is proved to be a phantom evoked for theoretical uses. It might have been added that the acid dyspepsia which plays so important a part in the last named gentleman's hypothesis, and which has some acceptance in Scotland and Germany, seems to be a natural consequence of oaten food in the one case, and of that "greasy and sour" cookery in the other, which has been so deservedly vituperated by travellers.

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[1] Bull. de l'Acad. de Méd., xvii. 14.

The impaired power of expansion of the chest and lungs, which has been naïvely suggested to explain the deposit of tubercle, evidently depends upon loss of power in the respiratory muscles; and when it shall have been shown that emaciation can advance so far as to occasion this debility without tubercles having been deposited in the lungs, the hypothesis will become more worthy of serious discussion. The attenuated state of the bloodvessels is said to favour the exudation of tubercle; but again it must be asked which of the two precedes the other? The nervous system in the tuberculous constitution, we are told, possesses an average degree of tonicity below the healthy standard. Here it seems probable that the strumous diathesis in the light-haired races has alone been kept in view; for assuredly in the dark and in the negro races no such peculiarity exists. We cannot, therefore, even upon the author's own exposition of the subject, agree that these and one or two minor "vices of the constitution may be safely regarded as an accurate measure of the predisposition" to consumption. We are, indeed, at a loss to comprehend how he can regard them, even when united, as anything more than indications of a slightly greater probability that consumption may supervene than that it will not do so. The same may be said, moreover, of all kinds and degrees of impaired vigour, except such as depend upon diseases specifically antagonistic to phthisis.

The phenomena indicative of the approach of phthisis are included by Dr. Lawson under the head, "*The Precursory Stage of Phthisis, or Tuberculoid Condition.*" It is said to be "characterized by decided morbid action, and yet is anterior to the deposit of tubercles." (p. 28.) Elsewhere it is distinguished from the diathesis (which term, as we have seen, the author uses to denote a mere predisposition, which may never become developed into disease), as being "the beginning of a positive morbid action, which, if not arrested, surely and steadily progresses to the deposit of tubercles." (p. 315.) In this stage, it is said, "we observe a more marked departure from the physiological state than belongs to the mere constitutional predisposition; thus, the system loses weight, the strength diminishes, the secretions become still more variable, and calorification and innervation sink below the natural standard." These various phenomena our author illustrates in detail; but, after carefully examining what he has written, and finding that in a large number of cases "they pass unnoticed;" that "dyspepsia is not generally present;" and "that irregular chills with slight febricula" are asserted, without any proof whatever, to occur before any deposits in the lungs exist; we remain very sceptical concerning their reality as antecedents of tuberculization. Undoubtedly, if tubercular deposits in the lungs depend upon constitutional causes, they may be preceded by special cachectic symptoms, and it rests with observation to declare what is the character of those phenomena. Now, neither Morton, Laennec, Louis, Stokes, Walshe, nor any one recognized as authority in such matters, whether among English, Continental, or American physicians, ever discerned such a state, still less attempted to describe it.[1] Its first appearance in English, we believe, was in the Prize Essay of Dr. Howard Payne Cotton, which, like too many other essays of the same class, suggests that the competition for the prize must have been very limited, indeed. This author opens a chapter with the startling announcement that "prior to the appearance of tubercle, phthisis is very frequently within the control of remedial measures"[1] (p. 26), and afterwards describes the symptoms preceding the formation of tubercles, as progressive loss of vigour, pallid or sallow complexion, anxious but animated expression, sharpened features, hurried movements, irritable and capricious disposition; uncertain appetite, imperfect digestion, passive diarrhœa; slow, small, and excitable pulse; restless and unrefreshing sleep, with occasional perspirations; and invariable loss of weight. Dr. J. C. Hall treats of a "period preceding the deposit of tubercle," in terms evidently borrowed from Dr. Cotton. Dr. Edward Smith has his notion also of a "pre-tubercular stage which is capable of easy demonstration," but ignores this long list of portentous symptoms, and especially those of a dyspeptic nature, and makes it to consist in a "diminished vital capacity of the lungs," which appears to mean a diminished power of expansion, and is attributed to exhausting causes of some kind not specified.[2] A very rational account of this subject is contained in the Lectures of Dr. James E. Pollock,[3] who states that the earliest symptom of tubercular disease is wasting, which precedes cough, hæmoptysis, and all the physical signs, and is earlier in point of time than hectic. After wasting, debility soon supervenes, and then some hectic fever, and occasionally purpura and mucous hemorrhages. The most extraordinary pre-tubercular stage is that described by Dr. John Hogg.[4] The array of symptoms ascribed to it above is one of mere trifles compared with that which he depicts. Our space forbids even a complete summary of them; but, besides a leaden, greenish, transparent, or pimply skin, a countenance that "acquires an air of mild benevolence," a red furred tongue, thirst, fetid breath, confined or loose bowels, emaciation, with thin, skinny, cold, blue, lumpy, and bulbous fingers, we have emaciation rendering the joints prominent, the once capacious chest becoming flat, the breasts in females shrinking away, and the clavicles projecting; "the faculties of the mind falter, and are incapable of any exertion;" a presentiment of evil is experienced, and an occasional hectic flush is observed on the cheek. Our experienced readers will imagine that we have here a picture of consumption far advanced, but they are mistaken. Dr. Hogg says, "The lungs even now probably present obstacles, *by their atrophy and shrinking*, to the free circulation of the blood through them, causing an increased effort of the heart to propel it, *the tuberculous deposit not having yet commenced.*" (p. 31.) According to this author, the debility still goes on increasing, and is attended with headache, stitch in the side, shortness of breath and a short, hacking cough, and, in females, with leucorrhœa and amenorrhœa. There is now dulness under the clavicles, generally the left, and the respiratory sounds at the same points are rough. But "up to this time there has been no deposit of tubercle, so far as we can discover" (p. 37); while "in more

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[1] We should, perhaps, except M. Fournet, whose principal work (*Recherches cliniques*, &c., *et sur la première Periode de la Phthisie pulmonaire*, Paris, 1839) contains many of the details now given by Dr. Lawson respecting this mythical stage of phthisis. Its conclusions have generally been regarded as not proven. See a

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criticism in the Brit. and For. Med. Rev., ix. 323. In a paper on "The Curable Stage of Phthisis" (Edinb. Med. Jour., ii. p. 683), Dr. Edward Smith claims that such a stage exists, and denominates it the "pretubercular stage," but offers no tangible proof of its reality.

[1] The Nature, &c., of Consumption, London, 1852.

[2] Lancet, Nov. 1856, p. 489, 524.

[3] Lancet, Aug. 1856, p. 154.

[4] Practical Observations on the Prevention of Consumption, London, 1860.

marked cases, where tuberculization is nearer at hand, the inspiration is puerile, bronchial, or even amphoric, according to *the intensity of the predisposition* to the disease, while expiration is short and *indistinct.*" With these signs, that is, all that have been described, some authors, says Dr. H., "Laennec, Louis, and others consider tuberculization to have commenced." We should think they did. But, we are told, "Louis goes so far as to say that 'tuberculization commences from six months to two years before its announcement by cough or any obvious pectoral symptoms.'" We are not able to find any such statement made by Louis; on the contrary, he declares that "in the majority of cases coughing begins without any assignable cause, in the midst of perfect health." (*Op. cit.*, p. 526.)

Is Dr. Lawson prepared to accept these descriptions as representing the precursory signs of phthisis, and if so, which of them? They are mutually contradictory, and comprise all grades of disease from the nearly absolute negation of symptoms by Dr. E. Smith, up to the numerous and grave disasters described by Dr. Hogg, and which really appertain not merely to the stage of crude tubercles, but to that of softening also. Under the title "First Stage," Dr. Copland enumerates the greater part of the less grave symptoms which have been above referred to; but he says: "The lungs at this period contain a greater or less amount of tubercular deposit in what has been called a state of crudity" (p. 14). This is the opinion universally held by all who are conversant with the subject, except the writers above named and a few others of inferior position, and it is also that which we entertain ourselves; but as we know of no greater pleasure than an increase in knowledge of the laws of disease and of the means of curing it, we should hail with heartfelt satisfaction any novel view or method, provided only it were based on truth. Thus far we think that the statements in question have been shown to be inconsistent with truth; and, therefore, when we find Dr. L. adding to the characters already enumerated, signs revealed by inspection, percussion, and auscultation, yet perfectly equal upon the two sides of the chest, signs, therefore, which can depend only upon the debility of the patient, and possibly on a partial but symmetrical loss of flesh, we feel persuaded that he has allowed himself to be led astray from the real towards the ideal by a desire to over-refine in the art of diagnosis which he has so successfully cultivated.

In the critical remarks that have been made, it is not our intention to imply that no phenomena exist which may justly be suspected of indicating the imminence of consumption. In this disease, as in most others, the local lesion is the result of a previous derangement of the nutritive functions; but we look in vain for proof of the special character of that derangement. Before the deposit of tubercle reveals itself by physical signs, the health must be deranged, for these signs are indicative only of a certain accumulation of the morbid matter; and it must not be forgotten that the tubercular deposit, in some cases in which its recognition is preceded by general symptoms of impaired health, may not occupy the apex of the lung, but a more central part of the organ where its existence is not betrayed by any physical signs. Yet in not a few cases the evidence of impaired health is either wanting altogether or is quite equivocal, as the preceding statements are intended to show. We are disposed to believe that the symptoms which precede the material evidence of tuberculization are very far from uniform, and depend for their special character upon the age, sex, constitution, temperament, and various other peculiarities of the individual patient, among which the habitual want of vigour of some particular function holds a prominent place. The person of weak digestion may suffer from dyspepsia, and the nervous, from an increased excitability, including chilliness and feverishness; some may experience shortness of breath, and others neuralgic pains in the chest, but the only condition common to the greatest number on the approach of chronic phthisis is loss of flesh and strength. The semeiological value of this symptom, it need scarcely be added, depends altogether upon the absence of every other cause, and they are legion, which can produce the same effect. Besides which, as Dr. Lawson remarks in another place, there are frequent exceptions to the rule, and Louis found only one-half of the cases exhibiting emaciation from the beginning. A similar fact has been observed by Fournet, Walshe, and others. For ourselves we should regard dry cough as far more frequently than emaciation, the earliest symptom of consumption.

We have not, in the preceding review, taken any notice of a paper by M. H. Bourdon, and which was really in advance of all that have been cited,[1] because this writer does not claim that the symptoms which he describes are independent of tuberculization, although they may precede the physical signs of that condition. The paper of Dr. B. is of sufficient importance for us to transcribe its conclusions, which are as follows :—

> "When disorders of the digestive function are observed, and particularly chronic dyspepsia, or vomiting without evident cause and which is intractable to all treatment;
>
> "Or when, although there is neither hepatitis nor heart disease the liver is enlarged and tender;
>
> "When these phenomena occur alone or during such a disease as chlorosis, typhoid fever, or measles, phthisis is to be suspected.
>
> "Therefore the medical history of the patient must be learned, and his respiratory apparatus must be closely scrutinized for any trace of commencing tuberculization that may exist; and if, notwithstanding the absence of every characteristic stethoscopic sign, there should be a daily exacerbation of fever and perspiration at night, emaciation, and debility, the presumption in favour of phthisis would be very great indeed, and prudence would require that its existence should be regarded as certain."

Among the symptoms of the precursory stage of phthisis *enlargement of the mucous follicles of the pharynx* occupies a prominent place in Dr. Lawson's description. We supposed that this condition of the throat had ceased to be spoken of as an essential phenomenon or even a frequent complication of phthisis, except by writers who address themselves to the fears of invalids rather than to physicians made familiar with disease by personal observation and an enlightened literary culture. The prominence accorded to it, therefore, by a writer so well fortified by experience and study as Dr. L., induced us to revise our judgment and endeavour to rectify in it whatever the review might prove to be erroneous. Dr. Lawson admits that "systematic writers have dwelt but little on the condition of the pharynx in the early stage of tuberculosis," but adds, "in the more advanced stages of tubercular disease the affection of the throat has been *fully described by nearly all writers.*" (p. 319.) These remarks imply that the condition of the pharynx has not usually been studied, but that where it has been examined the lesion in question was detected. Upon this inexplicable statement we need only remark, after Louis, that in one hundred and twenty cases of death by phthisis, ulcers of the pharynx were found *only four times;* that they were numerous, small, and equally disseminated over the whole membrane; and that during life they occasioned no symptoms whatever.[1] This last clause meets the objection that attention had not perhaps been paid to the symptoms which the state of the throat would occasion.

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[1] Actes de la Soc. Méd. des Hôpitaux de Paris, 1852.

If it is suggested that in these cases follicular disease and its local consequences may have disappeared before death, we reply by quoting Dr. Lawson, who says, "I am fully satisfied that, in a large majority of cases passing into consumption, the pharyngo-laryngeal structures become *early and permanently* diseased." "The form of morbid action," says Dr. L., "to which the tonsils are subject, appears to be of a suppurative character, and, as believed by Dr. Green, also tubercular." These glands are said to be early enlarged, but this condition is not permanent; "on the contrary, the tendency is to a suppurative or even ulcerative action, with, ultimately, absorption or destruction of almost the entire glands." If Dr. Lawson makes this statement upon his own authority we must be content to believe that his experience has been altogether peculiar, for there is not a single pathological anatomist who describes anything of the kind as characterizing the tubercular diathesis or disease. On the contrary, no fact is more familiar than that in persons of a strumous constitution enlargement of the tonsils tends to become permanent with *induration.*

Equally singular is the opinion of Dr. Lawson, that the cheese-like substance observed in the tonsils, and which occasionally becomes cretified, is of a tuberculous character. Yet he quotes Höfle, Wedl, and even Rokitansky in support of the opinion. But Höfle and Wedl say of these yellowish-white, oval, and fetid masses that "they are hawked up by both healthy and diseased individuals," and "have heretofore been frequently regarded as crude tubercles." Wedl adds that upon microscopic examination they are found to consist merely of buccal epithelium, pus-corpuscles, oil-drops, and solid amorphous fat.[2] Foerster speaks of them as dried mucus and pus which sometimes undergo calcification;[3] and Lebert describes their cheesy consistence and fetid smell, and their conversion into bodies of almost stony hardness "which, when rejected, are easily *mistaken* for tubercles."[4] But Dr. Lawson asserts: "Rokitansky calls the substance 'tubercular or cheesy plugs,' and there is reason to believe that it is of a tuberculous character." This statement we are obliged to rectify: The words of the Viennese anatomist are these: "The *purulent secretion* not unfrequently becomes inspissated, so as to form tubercular cheesy plugs, or even chalky concretions," the word tubercular evidently referring to the form and not to the nature of these bodies.[5] Neither in the first nor in the last edition of his treatise does he so much as mention the pharynx among the organs in which tubercles may be deposited, and in the second work his only allusion to the pharynx, in this connection, is when he says, "scarcely ever does tuberculosis spread from the larynx into the pharynx."[6]

As already stated, Dr. Lawson avers that in "*a large majority* of cases passing into consumption, the pharyngo-laryngeal structures become early and permanently diseased" (p. 319); but subsequently his opinion is expressed in very different terms; for he says (p. 321), the *constancy* with which the throat affection is manifested shows its intimate relation to tuberculosis "at least in *a certain number* of cases." In the next sentence he speaks of its occurring as one of the earliest signs in "*a large class* of examples." These varying terms present an idea of the frequency of its occurrence which is very far from precise. Further, the degree of its evil influence does not seem to be very definitely settled in the author's mind; for, while he "will not go so far as to maintain it to be a cause of the local deposits" in the lungs, still he thinks it "by no means certain *that this condition is not a primary local lesion, incident to the tuberculous state*," which "at least hastens the pulmonary affection." But if it is not an ordinary antecedent of phthisis, or if phthisis is not its ordinary sequence, this statement loses all weight and force. That there is no such relation between the two affections we have already given authoritative reasons for believing; but more remain behind in the statements of the most experienced observers of disease and the most accomplished pathological anatomists.

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[1] Op. cit., pp. 67, 68.

[2] Syd. Soc. ed., p. 325.

[3] Pathol. Anatomie, pp. 8 and 12.

[4] Handbuch d. prakt. Med., ii. 215.

[5] Syd. Soc. ed., ii. 7.

[6] Vol. i. p. 308.

In 1853 the late Dr. Todd fully described the symptoms of the throat disease and its treatment, and even admitted, what is denied by others, that it "often extends to the larynx and trachea, and sometimes into one or more of the bronchial tubes." He does not say one word of its relations to phthisis either as cause or effect, but alleges, on the other hand, that it "is very common in men of gouty diathesis, and in women of a relaxed habit who do not take proper care of their health."[1] Now, gout, it is well known, is antagonistic to tubercle.

Lebert, after describing the affection as "angina gutturalis" and "angina chronica," remarks that it "sometimes gets well spontaneously, sometimes lasts for months or years, and either gradually disappears, or, without occasioning any danger, may never be completely cured. Not unfrequently it is associated with chronic diseases of the skin."[2] Grisolle remarks: "This disease is not only rebellious, but may induce various annoyances; thus it may ultimately produce a complete change in the voice; but it never is fatal, and Dr. Green to the contrary notwithstanding, it can never undergo any organic degeneration."[3] Dr. Flint, whose authority as a pathologist is only surpassed by his character for probity, says: "Having had opportunities of observing numerous cases in which chronic pharyngitis has persisted for years, I am satisfied that so far from the affection tending to tuberculosis, it is rather rare for the latter disease to become developed in this class of patients; and, in fact, I have been led by experience to regard the former as militating against the presumption of the existence of the latter."[4] M. De Mussy, who mildly expresses his astonishment at some of the horrible results attributed by certain writers to follicular disease of the pharynx, asserts, nevertheless, that it frequently complicates phthisis. But he has so little notion of its being a stage or a cause of tubercular consumption, that in his article upon its pathogenesis the word tubercle does not even occur, and the affection itself is regarded as a manifestation of the herpetic diathesis.[5] One of the Brompton Hospital physicians, Dr. Edward Smith, has written an article entitled "Remarks on the Throat, in Cases of Chronic Phthisis and Chronic Bronchitis," which shows that he made the disease a subject for special investigation; yet he concludes that enlargement of the pharyngeal follicles is much more common in chronic bronchitis than in phthisis, while the condition most characteristic of the latter disease is *paleness* of the mucous membrane of the throat.[6]

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[1] Times and Gaz., Feb. 1853, p. 209.

[2] Handbuch der prakt. Med., ii. 210.

[3] Pathol. Interne, 7ème éd. i. 258.

[4] Diseases of the Respiratory Organs, p. 497.

[5] Traité de l'Angine Glanduleuse, p. 95.

[6] Liverpool Med.-Chir. Jour. July, 1857, p. 189.

Anxious as we are to avoid even the appearance of injustice, we subjoin the testimony of another Brompton physician, Dr. Alison, of whose work we have spoken in terms of praise. After referring to certain tracheal and laryngeal sounds indicative of the *first stage* of consumption, he remarks: "When, on the other hand, the fauces have been long congested, when there is ulceration, or when there are signs of recent inflammation, when the urgent symptoms of laryngitis and croup are pressing, it is *little* likely that phthisis is present." (p. 116.) In another place he says: "The pharynx in the first stage of phthisis *occasionally* becomes the seat of physical alteration. The mucous membrane is roughened as well as reddened. The follicles become enlarged, and sometimes, but rarely, the seat of minute ulceration." (p. 122.) In the second stage an analogous condition is stated to exist in "a large proportion of examples," (p. 164,) and in the third stage also "in an aggravated form." (p. 267.) But, in a subsequent chapter, this author says:—

> "If, when the patient is only slightly disturbed in his health, and when the thoracic physical signs of phthisis are ill marked, the gums present a fine red border along the edge of union with the teeth, and the fauces are only very slightly congested, or *perfectly healthy*, the probability of pulmonary disease in an incipient form being the primary complaint is considerable. If, on the other hand, the fauces be highly vascular, granular, or granulous, the posterior wall of the pharynx be rough, tuberculated, and covered here and there with thick green mucus, or the tonsils be irritable, large, and projecting, and associated with enlarged cervical glands on the exterior of the neck, and the voice be more or less hoarse or nasal, and *no decisive physical signs* of phthisis are to be obtained by auscultation or percussion, it is highly probable that the primary and chief disease is within sight, and that the thoracic symptoms and signs are only secondary, and *very likely to pass off* upon the cure of the morbid conditions above referred to." (p. 354.)

We have been particular to quote these passages, because, like those of Dr. Lawson, they are more or less at variance with the statements of other authoritative writers on phthisis, and more especially because they are in direct opposition to those of Dr. E. Smith, who studied the disease in the very same institution as Dr. Alison, so that the discrepancies are not explicable by any presumed difference of climate, race, &c. But the statements of Dr. A. are so far from being harmonious in support of the idea that granular pharyngitis has any direct relation to phthisis, that he actually adduces the existence of this condition as denoting freedom from pulmonary tuberculosis, and antithetically with the declaration that a perfectly healthy throat, in connection with a red line on the gums, renders the probability of pulmonary disease considerable.

We have said enough, and perhaps more than enough, to show that the frequency, nature, phenomena, and tendency of follicular pharyngitis have been misapprehended by the author of the work now specially under notice, and above all that it has no connection whatever, except an accidental one, with tubercular consumption. Our own observation accords perfectly with that of the gentlemen whose testimony has been quoted. For twenty-five years that we have studied diseases of the respiratory apparatus with peculiar care in public and in private practice, both before and since the attempt was first made in this country to excite attention within the profession and alarm beyond it by styling an innocent but annoying throat affection "tubercular," we have never yet witnessed any relation between tubercular phthisis and the follicular disease in question other than one of mere coincidence in exceptional cases. In the former we have sometimes found the throat anemic, wasted, and occasionally dry, but very rarely studded with enlarged follicles; in the latter the chest symptoms of any sort have been usually slight, and we can scarcely recall an instance in which it preceded the development of consumption.

We have no wish to conceal the fact that sundry writers assert the more or less intimate relations of follicular pharyngitis and phthisis. They are, in part, however, such as seem to address more frequently a popular than a professional audience in the little books which they usually publish. Others appear to have compiled indifferently from sources of very unequal authenticity and authority, and to have filled their pages with contradictions to which their own inexperience blinded them. We are acquainted with no other example than that of the work before us of so much ability and so many proofs of candour in the treatment of the subject generally, associated with what we are bound to pronounce an incorrect description and an unfounded and dangerous doctrine.

Dr. Lawson, in treating of *hemorrhage* as a symptom in phthisis, does not allude to the possibility of its occurring as a result of heart disease, or from a suppression of the catamenial, hæmorrhoidal, or some other habitual discharge. He states, also, his opinion "that copious hemorrhage may occur anterior to the deposit of tubercles," (p. 325,) assigning, however, the untenable reason that no physical signs of tuberculous deposit may precede the discharge. In another place, he says, "I am fully persuaded that pulmonary hemorrhage, in a vast majority of cases, is the result of tubercular deposits." (p. 336.) That hæmoptysis sometimes, though very rarely in the male, is not followed by active phthisis, must be admitted; but considering the very great frequency with which the latter disease is ushered in by the symptom in question, and the fact that very limited tubercular deposits may exist for a long time and even undergo such cure as they are susceptible of, and all the while be undetected by physical methods of examination, it is more probable that tubercles exist than that they do not whenever hemorrhage from the lungs takes place without any other tangible cause for its occurrence. Nothing is said by Dr. L. of the age at which hæmoptysis occurs. Rilliet and Barthez saw no case of it in a child under seven years of age; but one is reported of a child about as many weeks old who died from this accident in the Bellevue Hospital.[1] Its lungs contained scattered miliary tubercles, but no cavities.

The subject of *physical signs* in phthisis is one which seems to have been almost exhausted by the numerous skilful physicians who have devoted themselves to its elucidation, and the indispensable aid which it renders is familiar even to the youngest and least practiced in the profession. It sounds strangely, therefore, when Dr. Copland tells us that physical diagnosis has been "paraded, over-estimated, and lauded" (p. 3), speaks of "the examination of the bared chest for the grand *coup* of fussy diagnosis" (p. 62), or thus: "Whilst a murmur, a bruit, a râle, a rhonchus, and every sound for which a term could be coined, and their various grades, cadences, &c., were heard, or were feigned to be heard, the conditions of the vital powers and functions were entirely neglected." (p. 262.) Probably, if we were compelled to depend for our guidance in diagnosis and treatment either upon physical signs alone, or exclusively upon whatever was known before Auenbrugger and Laennec enlightened the dark region of pulmonary pathology, we should unhesitatingly trust ourselves to the former; because, while its field is narrow its phenomena are definite and precise, and supply us with a foundation for diagnosis and practice without which our therapeutics of the early stage of the disease would not be more secure than castles built on air. Few writers of real eminence among those who have treated of phthisis are open to the charge which Dr. Copland makes, and few especially of those who have appeared in the latter half of that almost one-third of a century during which the learned author was compiling his valuable work. Dr. Lawson is not certainly of the number, but is one of those who think it just as important to be accurate in physical as in functional semeiology, but who regard the former as much more attainable than the latter. His account of both is fuller than that given by previous writers, and if at times we differ from and criticize him, it is because we think that the materials of his work are stout enough to bear a little trimming of their apparent superfluities and excrescences.

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[1] New York Journ. of Med., March, 1857, p. 233.

It is unnecessary to pass in review every part of his elaborate description; we shall only notice here and there a few points which suggest remark. Thus, *jerking or wavy respiration* is stated not to be a reliable sign of phthisis independently of dulness, dry crackling, or localized feeble or harsh respiration, because it occurs in various other conditions unconnected with phthisis. Certainly, if those signs are present, the one in question need not be regarded; but it is in their absence that jerking respiration becomes valuable, provided that no other sufficient cause of imperfect expansion of the lung exists. Such we have always found it. M. Bourgade, who has carefully studied the subject, arrives at the same conclusion, which he thus expresses: "If a patient presents the general symptoms of commencing phthisis and jerking respiration, the existence of the disease is rendered certain."[1]

Dr. Alison presents us with a very interesting rationale of bronchophony. It was the opinion of Laennec, and is so of auscultators generally, that this is a sign of pulmonary solidification when heard over the lung itself, whereas Skoda leaves this element out of view, and refers the phenomena to consonance of aerial vibrations in the larynx and the bronchia. But Dr. Alison shows that while a feebly vibrating column of air will generate a sound which can be heard better through the normal than through the solidified lung tissue, yet one which is capable of throwing the latter into vibration will, by its means, generate a louder sound than the normal tissue, and hence that consonance and increased conducting power are both necessary to explain bronchophony. Yet he agrees with Skoda that to the former the most of the result is to be attributed. Dr. Alison observes that a distorted and deformed shape of the chest is not apt to be connected with phthisis, and in this, we think, other physicians will agree with him. In an interesting chapter on thoracic arterial murmurs in phthisis, he describes the frequent occurrence of a blowing sound in the arteries near the seat of tubercular deposits at the apex of the lung, and ascribes it to pressure. Doubtless this cause may sometimes be operative, but tubercular anæmia is less considered than it deserves to be in this connection. So in attributing the increased loudness of the heart sounds in phthisis to the increased activity of the organ and to the destruction of the lung, he omits the element of thinning of the walls of the heart, and that of the watery condition of the blood. A phenomenon of some importance is that the vocal resonance is occasionally louder over the healthy than over the tuberculated lung. This may depend upon direct obstruction of the bronchia of the diseased organ, or its imperfect expansion in consequence of contraction of the thoracic walls. To all such cases, and others in which different degrees of the same phenomenon are to be studied comparatively on the two sides of the chest, the differential stethoscope is admirably adapted.

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[1] Archives Gén., Nov. 1858, p. 531.

Dr. Lawson calls attention to the fact that tubercular ulceration of the bowels and constipation may exist together. A remarkable example of this curious circumstance is reported by Dr. Fuller.[1] We have observed the same thing in typhoid fever. In connection with œdema of the feet in the third stage of the disease, Dr. L. might have noticed that form of it which is confined to one extremity and is caused by obliteration of the veins. Cases of the affection are reported by Dr. Cursham.[2] The general summary of the phenomena of chronic phthisis is very clearly, and, with certain exceptions already noticed, very accurately presented. The most characteristic of the early signs are stated to be emaciation, cough, and hæmoptysis; yet we are warned against the risk of basing a judgment upon any small number of symptoms, and two cases are adduced as illustrations, in one of which there was no cough and in the other no emaciation. Of the early physical signs, Dr. L., in common with diagnosticians generally, regards dry crackling as the positive representative of consolidated tubercle, but believes that another, which he terms "tubercular crepitus," is the true sign of tuberculoid fluid exudation. It is described as a little finer and drier than ordinary pneumonic crepitus, and is stated to have been heard when no other sign was present, and also upon the limits of tubercular consolidation.

Under the general title of *Inflammatory Phthisis*, Dr. Lawson describes several forms of disease, to which the application of this name is, at least, of doubtful propriety. They merely comprise cases in which pneumonia, bronchitis, or pleurisy appear to favour the degeneration, if not the development of tubercle. The first variety, "Parenchymatous or Plastic Pneumonic Phthisis," is described as "ordinary pneumonia with plastic exudations ultimately tending to tubercular deposits." "It is evident," the author adds, "that pulmonary inflammation often becomes the direct inducing cause of phthisis, and imparts to the whole course of the affection an inflammatory grade of action." We have already stated what we conceive to be the true relations of phthisis and pneumonia, and shall not describe them anew, but will only remind the reader that the cases in which tubercles even appear to be the result of pneumonic inflammation are extremely rare, while in the greater number there are conclusive reasons for regarding the tubercles themselves as the primary affection. It cannot be denied that they very frequently occasion intercurrent pneumonia, which is neither dangerous itself, nor seriously mischievous in its action upon the greater number of cases in which it occurs. In regard to "Vesicular Pneumonic Phthisis," which is used as synonymous with "gray tubercles, gray semi-transparent granulations," &c., reasons have already been given for the doctrine, from which Dr. Lawson (following Andral's opinion) is one of the few dissentients, that these bodies are in no essential respect different from the tubercles of chronic consumption. Yet Dr. L. expressly refers to cases which have been of sufficient duration to allow of their "transformation into yellow tubercle," and he might have added that Laennec speaks of one in which even softening of the deposit took place within a month from the commencement of the attack. In a word, gray semi-transparent granulations constitute the proper anatomical character of nearly all cases of acute tuberculosis of the lungs, and their transformation into yellow tubercle, and subsequent softening, depend solely upon whether the patient survives long enough for these changes to take place. The third variety of acute phthisis described by Dr. Lawson is the "Broncho-pneumonic," by which term he denotes the cases which supervene on chronic bronchitis and broncho-pneumonia. Reasons have already been given for excluding these affections from the category of causes directly productive of phthisis, while we grant that in common with every debilitating agency, they may become the immediate forerunners of consumption in those who have a proclivity to the disease. But it is undeniable that in the majority of cases of acute phthisis, neither bronchitis nor pneumonia has preceded the development of the symptoms peculiar to the tubercular affection. If anywhere they appear as antecedents of consumption, it is when they are themselves chronic and precede the chronic form of the organic disease. The same remark is applicable to what Dr. Lawson terms "Pleuritic Phthisis;" indeed, this author admits that the agency of pleurisy in its production "must generally be incidental or indirect."

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[1] Trans. Lond. Path. Soc., xi. 103.

[2] Med.-Chir. Trans., xliii. 377.

As this form of disease is not very fully presented by the author just named, nor as accurately as the present state of knowledge regarding it requires, we shall offer a brief sketch of the more recent and authoritative expositions of its forms and nature. Dr. Copland describes a "primary or rapid acute phthisis" and a "consecutively acute phthisis." The latter is only "an acute or actively developed state of the pre-existing chronic disease." The former he divides into two varieties: "that in which the more characteristic phenomena of phthisis are present in a remarkable or severe degree;" and "that in which these phenomena are nearly if not altogether absent; the disease being often mistaken for low, nervous, or typhoid fever." In both of these forms, Dr. C. admits the pre-existence of latent tubercular deposits, and Lebert states that, after death, old tubercles are found in the lungs and bronchial glands. The first named author enumerates, as occasional or exciting causes, eruptive fevers, various inflammatory affections of the lungs, and severe physical exertion; of these Lebert mentions measles only, and concludes that in the majority of cases the true occasional causes are unknown.

The first accurate history of this affection based upon a sufficient number of cases was published by Waller, in 1845,[1] although it had previously been more or less accurately and fully described by Morton, Portal, Bayle, Laennec, Andral, and particularly Louis. He refers to two anatomical forms in which it occurs, the miliary and the infiltrated; and, according to their course, he divides the cases into Typhoid, Catarrhal or Bronchial, Gastric, Intermittent, and that masked by Delirium Tremens. He regards the diagnosis of the first mentioned form from typhoid fever as extremely difficult, since active delirium, disturbance of the respiration, copious sweats, the absence of abdominal symptoms, the character of the cutaneous eruptions, and even the enlargement of the spleen may be met with in either disease. Indeed the chief symptomatic distinction he finds in the less regular development of the symptoms in acute tuberculosis. In some cases he believed that the two affections co-existed; and in others that the tuberculous followed the typhoid affection. The *catarrhal* form owes its peculiarities to the accompanying congestion, œdema, or emphysema of the lungs. In one variety the attack is preceded for a few days by violent cough, or begins with a heavy chill and continued fever. The respiration is very hurried, laborious, and short, and the dyspnœa extreme; the cough is violent and produces a copious expectoration of frothy, albuminous sputa, streaked with blood. Percussion is normal or tympanitic, and the rhonchi are those of bronchitis. The face is pallid and very anxious, the skin hot, pulse 130—150, the ankles œdematous, and the loss of flesh and strength rapid. After a few days the lips and hands and feet become cyanotic, and death by "paralysis of the lungs" takes place. Besides the evidences found of catarrh, œdema, and emphysema of both lungs, these organs contain numerous disseminated tubercles. In another variety the symptoms are less intense and of longer duration, and are accompanied with tubercular infiltration. This anatomical condition renders it more possible than in the other form, to recognize the state of the lung. The signs of a tubercular mass may, however, be due to a pre-existent and chronic deposit. In many cases vomiting and gastric pain are observed. The third form described by Waller, is the *gastric*, in which the symptoms just mentioned, with catarrh of the pharynx, and diarrhœa, precede and accompany the typhoid or catarrhal states. The disease, according to this author, may wear the mask of *intermittent fever* at first, but finally merges into one or the other of the forms just named. It is asserted that the deposit of tubercles takes place so rapidly during the paroxysms as to allow its increase to be estimated from day to day. The commencement of the attack may also be masked by *delirium tremens.* It is stated by Waller that acute *tubercular infiltration* of the lung always presents the symptoms of pneumonia, and cannot be clearly distinguished from it. Rokitansky makes a similar statement.[1]

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[1] Prager Vierteljahrschrift, vi. 1.

The most complete exposition of this affection which has yet been published is that of Lebert,[2] which is based upon no less than forty cases recorded by himself. He states that in more than one-third of the fatal cases, old tubercles were found at the apices of the lungs. The pulmonary tissue around the recent granulations was generally quite sound or only slightly congested; but all grades of solidification were also observed. Twice the larynx was deeply ulcerated; in one case the epiglottis being nearly destroyed. The follicles of the larynx were generally enlarged, but not tuberculous. Five times tubercles of the brain were found, and in the small intestine ulcers of the glands were present in one-third of the cases. This author presents a full description of the symptoms of the disease, but our limits will not permit us to do more than notice the forms which he has found it to assume. These are: 1. The Latent Form, or the Gastric Form of Waller. The symptoms are those of gastric fever, with rapid and extreme emaciation, but neither cough, dyspnœa, nor thoracic pain. The only physical signs are catarrhal rhonchi. The patient rapidly runs down and is apt to die suddenly. Three cases of the sort were observed by Lebert. 2. The Proper Tuberculous Form affects one-half of all the cases. In it the fever is intense, the debility extreme, the breath very short and quick, the cough harassing, the sputa sometimes bloody. Percussion affords no definite signs, and auscultation reveals sonorous, sibilant, and fine crepitant rhonchi, and perhaps some blowing at the summits. Diarrhœa, colic,

[1] Lehrbuch, 3d ed., iii. 301.

[2] Handbuch der prakt. Med., ii. 105.

meteorism, depend upon intestinal ulcers; and vomiting, hardness of the abdomen, and ascites upon tubercular peritonitis. The fever has generally a typhoid type. 3. The Cerebral Form is next in frequency, although much less frequent than the last. Along with characteristic fever of a typhoid type are observed disorder of the senses, paralysis, spasms, and, in addition, the chest symptoms already referred to. 4. The Masked Form is rare, and is characterized by the prominence of the symptoms of some other disease which conceal that of the lungs. Delirium tremens or intermittent fever, as Waller states, or laryngitis, pneumonia, or pericarditis, may hide the more important affection. The diagnosis of the disease is confessed by all to be extremely difficult in many cases, and especially, in one of its forms, from typhoid fever. This fact must render us slow in accepting as cases of cure some which appear to be so. The possibility of cure is, however, established both by Waller and Lebert. The former affirms that the fact is indubitable, and the latter witnessed recovery in six cases. In four persons who afterwards died of other diseases, the evident traces were discovered of miliary tuberculosis in a state of cure; that is to say, the tubercles were found inclosed in a black pigment.

Dr. Lawson says of *laryngeal phthisis*: "As described by Trousseau and Belloc, laryngeal phthisis is a chronic inflammation, upon which tubercular deposits may or may not be engrafted." This is scarcely a correct statement. The authors named used the word phthisis in the sense which was attached to it by all writers before Laennec, viz., a disease which proves fatal by wasting. Confining their attention to such diseases of the larynx, they described a simple, a sympathetic, a cancerous, and a tuberculous, laryngeal phthisis, and they defined the last named one to be "that form which begins to show itself *after* the existence of pulmonary tubercles can be detected."[1] Dr. Lawson, therefore, inverts the order of succession of the laryngeal and pulmonary affections as it is given by Trousseau and Belloc.

Dr. Lawson suggests a reason why in certain cases tuberculosis fixes itself in the larynx. He supposes that in the "diathetic state," casual irritations of the larynx determine the development of tubercles in this organ rather than in the lungs; and he adduces the inordinate use of the voice, the inhalation of irritating substances, as causes of this nature. Unfortunately, however, for the stability of this conclusion, it is not a fact that any of these persons are peculiarly liable to laryngeal phthisis. Grinders and others who inhale irritating particles suffer from bronchitis and not from laryngitis.

Dr. Lawson admits that when phthisis begins in the lungs the larynx becomes involved in tubercular disease, and indeed declares that all the cases of laryngeal phthisis which have fallen under his observation were associated with pulmonary tubercles. Yet he affirms that in laryngeal phthisis, properly so called, the disease must begin in the larynx and trachea, and predominate in them throughout its entire course. Indeed, he goes farther, and lays down as a diagnostic point that in laryngeal phthisis the morbid action begins *in the throat:* Or, still more specifically he asserts that "there is an *idiopathic* laryngeal phthisis and a *secondary* laryngeal affection, the latter a mere sequence or complication of ordinary chronic phthisis. The laryngeal affection which is generally idiopathic *begins in the throat.*" (p. 404.) We have shown elsewhere that follicular inflammation of the throat has no relation, either causative or coincident, to tubercular disease of the respiratory organs, and now need only remind the reader of this fact, which is so persistently ignored by the author of the work before us. We have further to notice the still more erroneous assertion that there is such a disease as idiopathic laryngeal phthisis independent of cancer and syphilis, and of tubercles in the lungs. This proposition forms the basis of a system of quackery which certain unscrupulous practitioners of medicine, at home and abroad, have inaugurated and built up for the purpose of deluding the unhappy victims of consumption who are ever ready to grasp with the energy of despair whatever hope may be thrown out to them, however delusive may be its promises and how unsubstantial soever the succour it can afford. We regret to see it incorporated in a work which contains so much of scientific truth, and adopted by an author whose sagacity, experience, and skill impart to his conclusions a peculiar weight. At the risk of appearing prolix, we feel the question to be of such importance as to warrant our quoting, for the information of those who have not had leisure to study the subject for themselves, the conclusions of some of those pathologists whose original investigations have most largely contributed to settle the laws of tubercular disease.

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[1] La Phthisie laryngée, p. 90.

Louis originally established the pathological law, that in phthisis ulcers are more numerous in the larynx than on the epiglottis, and in the trachea more so than in the larynx.[1] He found also that in 18 cases in which the epiglottis was ulcerated without the participation of the larynx or trachea in the lesion, the pharynx and the tonsils were perfectly healthy. (p. 296.) Finally, as showing the close connection of ulcers of the larynx and trachea with tubercle, he found no instance of their occurrence in five hundred autopsies of persons who had died of chronic diseases other than phthisis. (p. 55.)

Trousseau and Belloc testify as follows: "We recognize the existence of tubercular laryngeal phthisis whenever there is at the same time confirmed consumption of the lungs. So that in the former disease we shall find the signs of tubercular pulmonary consumption superadded to those of simple laryngeal phthisis."[2] Again, "We conclude that in tuberculous laryngeal phthisis, death by consumption is due not so much to the disease of the larynx as to the other organic lesions which accompany rather than follow it. In fine, tuberculous laryngeal phthisis is only the local expression or manifestation of a general disease." (Ib., p. 239.)

Dr. Stokes says: "Indeed, what is called phthisis laryngea seems to be, in almost all cases, phthisis pulmonalis."[3] And again, "I can avow, that after ten years of hospital and private practice, I never saw a case presenting the symptoms of laryngeal cough, purulent or muco-purulent expectoration, semi-stridulous breathing, hoarseness or aphonia, hectic and emaciation, in which the patient did not die with cavities in his lung."[4]

The immense experience of Grisolle and his consummate skill in observation led him to this conclusion: "In the numerous autopsies I have made in the course of twenty-seven years I have never seen a case of primitive ulceration of the larynx, and I have met with no authentic example of the sort in any work."[5]

Hasse expresses himself thus: "Nor am I aware of any instance of the larynx and trachea running through a course of tubercular disease independently of pulmonary phthisis," and he adds, "in most cases the pulmonary affection pre-exists."[6]

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[1] Op. cit., p. 52.

[2] Phthisie laryngée, p. 225.

[3] Diseases of the Chest, p. 246.

[4] Ib., p. 254.

[5] Pathologie interne, 7ème éd., i. 330.

[6] Path. Anat., Syd. Soc. ed., p 355, 356.

Among the cases observed by Dr. Cless, of Stuttgardt, "not a single one appears where the tuberculosis or ulceration of the larynx and trachea formed the primary and predominant affection; it was always secondary, and attendant upon simultaneous disease of the lungs."[1]

Even Dr. Cotton is obliged to confess, when speaking of laryngeal phthisis, "Perhaps, in every case of its occurrence, the lungs are found to be likewise tubercular."[2]

In his treatise on Pathological Anatomy, Foerster says, "Tubercle of the larynx is commonly, indeed almost always, an epiphenomenon of pulmonary tuberculosis, and extremely rare as a primary affection."[3]

In a very thorough examination of the subject of laryngeal ulceration, Dr. Rheiner declares that "strictly speaking there is scarcely such a disease as tuberculosis of the larynx,"[4] that is to say, independently of tubercles in the lungs.

Copland states the doctrine thus: "In laryngeal phthisis the affection of the larynx is merely symptomatic of tubercular formations in the lungs."[5]

Lebert, whose authority on this subject is perhaps superior to that of any other man, because he is equally distinguished as a practitioner of medicine and as a pathological anatomist, assures us that he "never met with an example of an idiopathic ulcer of the larynx." He even disbelieves the existence of tubercle in the laryngeal follicles, saying: "I have never detected tubercular matter in laryngeal ulcers. The so-called crude tubercle of the mucous membrane is nothing more than a swollen follicle containing its proper secretion in a state of fatty metamorphosis."[6]

Finally, the general law of the subject is laid down thus by Rokitansky: "Tubercles of the intestine, the *larynx and trachea*, the serous membranes, the spleen, and liver, occupy a very subordinate position, because they occur more or less rarely, indeed almost never, as primitive formations."[7]

It cannot be doubted that the doctrine expressed in these quotations is that of all the leading pathological writers whose judgment would be deserving of any weight in reference to the present subject. When, therefore, Dr. Lawson speaks of a laryngeal phthisis "which is strictly *idiopathic*, begins in the *pharynx*, and involves, as a general rule, the *tonsils, mucous follicles*, larynx, and trachea," (p. 404,) he is describing that which either has no existence in nature, or if it exists, has remained invisible to all the most eminent cultivators of pathology.

The *treatment* of phthisis is discussed by Dr. Lawson in a number of separate sections, in which are successively considered the management of The Precursory Stage, that of Tubercular Deposits, of Softening, of Cavities, the treatment of Incidental Symptoms, and of Complications. A chapter is specially devoted to Inflammatory and Acute Phthisis, and another to Special Questions, particularly Sea Voyages, Change of Climate, Gestation, and Topical Medication.

If this method renders necessary the repetition of many statements under the several heads, and therefore adds much to the author's labour, and something to the trouble of the reader who desires to learn the value of the different remedies discussed, it has the important practical advantage of grouping together the considerations applicable to each successive stage of the disease, and therefore of rendering the precise information which is desired more readily accessible to the practitioner. Of this division of the work, as a whole, we think that a very favourable judgment will be pronounced. It displays, generally, a just appreciation of the relative value of remedial measures in pulmonary consumption, and describes with clearness and propriety the special indications and the most successful methods of meeting them which are presented in the various forms, grades, and periods of the disease.

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[1] Ranking's Abstract, Am. ed., 1845, Pt. ii. p. 57.

[2] On Consumption, p. 172.

[3] Patholog. Anat., ii. 217.

[4] Virchow's Archiv, v. 549.

[5] On Consumption, &c., p. 85.

[6] Handbuch d. prakt. Med., i. 973, 969.

[7] Op. cit., i. 306.

The subject of *climate* as a remedy in pulmonary consumption has been discussed in all of its relations by a great many writers, and certain general conclusions have been arrived at which may be true of the majority of a given number of cases, but which are utterly fallacious in their application to individual instances. The same is, however, true of all therapeutical rules and principles, and every case of disease requires a mode of treatment adapted to its peculiarities. Observance of this rule only can insure success, and it is in perceiving and being appropriately guided by it that certain practitioners display sagacity and obtain more favourable results than their less acute brethren. It may be very true, for example, that in a warm climate phthisis is less prevalent than in a cold one, but it by no means follows that all consumptive patients would be benefited by a change from the latter to the former. Humidity and heat will pretty certainly be more mischievous than a dry and cold atmosphere, at every stage of the disease, and none the less for the malaria which accompanies the former during the summer and autumn, and which has been imagined to act as an antidote to tuberculosis. *A dry atmosphere and an equable and not extreme temperature,* are the two essential elements of a climate favourable to persons affected with this disease. Such an one in this country, Dr. Lawson says, is enjoyed by the eastern portion of Tennessee, the high pine woods of the Carolinas and Georgia, and the middle and northern portion of Texas. He is also of opinion that an analogous climate will be found in New Mexico, Santa Fe, California, and Oregon, and that these places are suitable resorts during the winter season. In summer, on the other hand, the North Western States, and especially the region about St. Paul, is recommended as remarkably salubrious. The peculiarities of the climate in most of the American and foreign resorts for consumptive invalids are very fully and intelligibly described by Dr. Lawson, particularly in the chapter devoted to Special Questions in the treatment of Phthisis. Dr. Copland treats of this subject quite at length and in some respects more minutely. As Dr. Lawson very appropriately remarks, however, the mere change of atmosphere, diet, and general associations, acting on both body and mind, modifies the common condition of the system, interrupts the morbid action, and restores the healthful play of the vital powers. Yet, in making choice of a residence for a consumptive patient, we must not be influenced by atmospheric conditions alone. To exile a person accustomed to the relatively complete and mechanical civilization of our northern cities, where every thing breathes comfort, and every want, every caprice, even, can be gratified, for life in a public house, ill built, rudely furnished, foul from untidy house-keeping, surrounded within doors by a crowd of wan and ghostly invalids, forever comparing notes of their pulses and their pains, their loss or their gain of weight, their ingesta and excreta—this is to condemn him to despair and premature decay, and fill with flints and thorns the pathway which to the last step of its decline should be bathed in sunshine and perfumed with flowers. Whatever locality is selected, if any must be away from home, let it be where the body may be invigorated by active exercise, or by protection at least from hostile influences, and the mind at the same time refreshed by the presence of natural objects, or the study of works of art, and as much as possible diverted from that sad self-contemplation to which all invalids are prone.

Among the medicinal agents for the treatment of phthisis, Dr. Lawson ranks iron very highly, and recommends it associated with quinia. The iron treatment, indeed, he regards as an essential part of the therapeutics of tuberculosis, and as adapted to every form and condition of the disease (pp. 420 and 436); but he fails to notice a special indication for its use which we regard as essential to securing its benefits. It was very distinctly laid down by Morton, who says: "*If the hectical heat be moderate and almost insensible*, ... the patients must be put upon the use of chalybeate waters in the summer. By this means I have relieved a great many of this kind of consumptive persons for many years, restoring their appetite, their flesh, and strength, abating their hectic heat and cough, and giving them a greater freedom of breathing, and that not only during the time of their drinking the waters, but also all the next winter."[1] The condition here insisted upon we have repeatedly found to be essential to a successful use of the medicine, for, when it was disregarded, hemorrhage has almost invariably resulted. We quite agree with Dr. Copland in his opinion that the effects of chalybeates of all kinds require to be closely watched in every stage and state of the disease, and while giving them in cases of very chronic phthisis without fever and with a limited deposit of tubercle, we cannot forget how completely Louis failed to realize the promises contained in the ardent and highly-coloured eulogy which Dupasquier pronounced upon the iodide of iron.

Dr. Lawson is also convinced of the usefulness of quinia in the forming as well as in the subsequent stages of phthisis, by improving the tone of the nervous and digestive systems, and of the capillary circulation, and by preventing the occurrence of chills in all stages of the disease. Dr. Copland appears to restrict its use to conditions in which it is desirable to have recourse at the same time to an acid and to an astringent, while Dr. Richardson regards it as of great value where the hectic attacks are regular. We believe that it is then almost exclusively that the medicine is of decided although of temporary utility. When a tonic influence is required, we regard cinchona or its extract as much superior to quinia. But neither can possibly operate more advantageously than a host of other remedies which may indeed palliate particular symptoms of consumption, but have no power to alter the diathesis out of which it proceeds, or to check the progress of the disorganization to which it naturally tends.

The proper regulation of the diet in consumption is of more consequence than the administration of medicines. The accepted doctrine of the profession is that the food should be very nutritious, and, if the stomach is unable to assimilate it, that active exercise and alcoholic stimulants should be resorted to for strengthening the digestive powers. Horseback exercise, and beefsteak and porter for food, are prescribed as the representatives of this view of the subject. Dr. Lawson thinks that there is an error in the practice; that our object is to check the perverted transformation, which could hardly be accomplished, he says, by crowding into the system large proportions of nitrogenous elements of food, which actually render the oxidation of the tissues more active. Hence, besides articles which contain fat, he would recommend potatoes, wheat bread, rice, &c. We find, however, that he specifies beef, mutton, venison, birds, chickens, fish, and oysters, as appropriate animal food, and we are sure that no one need complain of such a bill of fare. In practice he is, therefore, like most other men, superior to his theory. A similar fact may be noticed of Dr. Bennett, according to whose theory consumptive patients ought to be dyspeptic and unable to tolerate animal food. He also proscribes farinacea because they produce the acidity which is required for the production of tubercles in his theory of their origin. Nevertheless, he tells us that the diet should be "of a nutritious kind, consisting of a good proportion of animal food abounding in fat;" but he takes care to add—what is indeed the essential condition of such a diet's utility—that exercise, the strongest stimulant to appetite, must be taken actively and habitually. It is worthy of notice that Morton strongly insists upon a highly nutritious diet, as game, shell-fish, animal broths and jellies, in the more chronic forms of the disease; while in its febrile condition, he recommends milk—particularly asses' milk. Guéneau de Mussy says that the food should be substantial and strong, proportioned, however, to the power of the digestive function, and he gives the good advice to avoid all ragoûts, spices, salt meats, pastry, confectionery, and everything which expends the power of the stomach without affording nutriment.

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[1] Op. cit., p. 160.

In reference to the use of alcoholic stimulants in phthisis, Dr. Lawson has some very judicious remarks. He says that they improve digestion, promote nutrition, and protect the tissues from a too rapid oxygenation. He very wisely dissuades from their use in the laryngeal complications of the disease, and concludes, that while they are most useful for persons of a phlegmatic temperament, they are least so in the bilious. Malt liquors, he remarks, will be best adapted to the sanguineous temperament (which, however, is rarely that of consumptive persons), ardent spirits to the lymphatic, and wines to the nervous. Dr. N. S. Davis[1] has endeavoured to prove that there is no evidence that alcoholic stimulants are capable of either preventing or retarding the development of tubercular phthisis. For this purpose he inquired into the previous habits as regards temperance of a certain number of consumptive patients in a hospital. Evidently, this is entirely irrelevant matter. If the population of a place could be divided into two or more parts, according as they abstained from or used alcoholic beverages in moderation or in excess, and the percentage in each one could be determined, a partial solution of the question might be attempted. But even then the influence of other causes favourable or unfavourable to the disease would have to be estimated; and this is perhaps impossible. For example, it is certain that females are less addicted than males to the use of alcoholic drinks, so much less so that if no other causes interfered, and if alcohol is *per se* anti-phthisical, they should present a much greater mortality than males from phthisis; whereas, we know that if the two sexes differ at all in this respect, the difference is in favour of the males. Again, the intemperate use of alcoholic beverages may, by its debilitating influence, tend to precipitate the development of tubercles in those who are predisposed to them, while their moderate employment may invigorate all of the physical powers and ward off the imminent danger of the disease. The question is scarcely one which can be solved statistically; but we suspect that alcoholic drinks will continue to be prescribed, either theoretically, because they diminish the waste of the system just as fatty nutriment does, or practically, because they who employ them in moderation, along with their food, and in conjunction with active muscular exercise, feel all the better for their use. As for the suggestion that to prescribe them is to foster intemperance, it savours very much of the spirit which withheld men from deeds of mercy lest the ritual of their religion should be infringed. It is very certain that neither alcohol nor any other medicine or agent whatever can much diminish that vast crowd, one-seventh of the whole multitude of human beings who annually perish in many nations; and if there be those who lift their eyes in pious horror that here and there a consumptive has sunk into the drunkard's grave, let them, if possible, be comforted by the reflection that by means of this potent elixir many a life has been prolonged to benefit society, and to brighten those golden chains of love which link families together, and friends to friends.

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[1] Trans. Am. Med. Assoc., xiii. 565.

The use of *cod-liver oil* is fully considered by Dr. Lawson. His results agree in the main with those of other observers who have published their experience since the first exaggerated statements upon the subject were made. He agrees with all others that it is a common occurrence for the pulmonary disorganization to proceed uninterruptedly even while the weight of the patient is increasing. He presents us with none of those surprising cures which appear to have taken place in the practice of a few physicians. He admits that the oil often disagrees with the stomach, especially in persons of a bilious constitution, and is of opinion that in the second stage of the disease, its free use tends to obstruct the pulmonary capillaries, and thereby to favour the local disease. In the third stage, or that of cavities, Dr. Walshe believes that it relatively produces more marked effects than in the previous stages; but of this period Dr. Lawson speaks despondingly, and qualifies his hope of its benefits by the expression "if cavities are ever healed." It may be interesting to the reader to learn the opinion arrived at by so accomplished a physician as Lebert. He has expressed it in the following terms:—

> "It is undeniable that in an early stage of the disease, with appropriate hygienic treatment, and after many months' use of the oil, the course of a moderate proportion of cases is rendered milder and slower, and that more patients are improved, or even temporarily cured, than by a merely expectant treatment. In advanced phthisis the medicine is of less utility; but it is occasionally useful by diminishing the colliquative sweats and delaying the emaciation: many patients it temporarily benefits, and some even permanently. It is a precious but by no means a specific remedy in phthisis, and has no direct influence upon the process of tuberculization."[1]

The *topical medication* of the fauces and air-passages finds an advocate in Dr. Lawson, who, if he does not go the whole length of some who have written upon the subject, yet lays himself open, in more than one place, to serious criticism:—

> "The removal of a portion of the tonsils," he remarks, "is particularly insisted upon by Dr. Green; and, according to his extensive observations, great benefit is derived from the measure. When these glands are found secreting morbid material, and exhibiting diseased action throughout their substance, I am satisfied that great benefit will be derived from the excision of the diseased portion." (p. 429.)

Very possibly *when* the supposed case exists, the treatment mentioned may be appropriate. But we can say emphatically that no such case has ever fallen under our observation, and we are not acquainted with a single author, except such as have copied the statement which Dr. Lawson himself borrows, who has described this condition of the tonsils as an incident of phthisis. We cannot but regret, therefore, that Dr. Lawson should not have presented us more explicitly with his own experience in regard to this alleged complication.

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[1] Handbuch, ii. 145.

Dr. Lawson declares himself to be "fully persuaded that in the initial stage of laryngeal phthisis the judicious employment of leeches, counter-irritants, and the internal application of the nitrate of silver, *may arrest the disease.*" (p. 514.) As we have already seen, he admits that the laryngeal ulcers of phthisis are due to the softening of tubercle (p. 403); yet we are called upon to believe that not only is this local application competent to procure the cicatrization of such ulcers, but to prevent new ones from forming, originating as they do, not from a local irritation, but from a constitutional cachexia! He leaves out of sight altogether the still more important fact which we have already shown to be established by the concurrent testimony of all pathologists, that tuberculization of the larynx implies the same condition of the lungs. Far be it from us to depreciate the value of topical applications, liquid, pulverulent, and gaseous, in this affection, but we do most positively aver that no case of it was ever cured by them. Its more distressing symptoms may be mitigated, they may possibly be for a time suspended—although of this we have never met with an instance—but that they have been cured no evidence has yet been furnished. They who affirm that this miracle has been performed surely do not reflect how heavily they tax our faith. If there are no signs of pulmonary tuberculosis, upon what grounds are we asked to believe that the laryngeal affection is tuberculous? Can it be distinguished by its proper local symptoms from syphilitic ulceration of the organ, or from other forms of chronic, non-ulcerative laryngitis? The distinctive sign, according to Dr. L., of coincident faucial inflammation has not been visible to other observers. We are, therefore, left without any satisfactory diagnostic character of laryngeal phthisis, unless we recur to that of the simultaneous indications of tuberculous deposit in the lungs, and, if these exist, we shall surely not be pressed to believe that a cure of the laryngeal disease is possible.

In regard to applying medicinal substances to the air-passages, Dr. Lawson refers to medicated fumes and watery vapours, and impalpable powders of various stimulant or astringent substances, as occasionally of use; but he thinks, in common with most other practitioners, that when the larynx is the principal seat of disease, nitrate of silver is incomparably the best application. It surprises us not a little, however, to observe that he both believes in the feasibility of introducing a probang into the air-passages, and advocates its use:—

> "It has now," he remarks, "been proven that the *sponge-probang* and *elastic tubes* can be introduced into the larynx without serious inconvenience to the patient. Having been in the habit for years of introducing the sponge into the larynx, and more recently the elastic tube, I am not permitted to doubt the practicability of these operations." (p. 543.)

Other physicians there are who entertain quite as little doubt as our author upon this subject, and would have us believe that it is quite as easy an operation as the introduction of a catheter into the urethra, or even easier it may be. Dr. Scott Alison, at his first essay, "found some little difficulty, but after this, acquiring confidence and some tact in its performance, all difficulty soon vanished."[1] Dr. Prosser James does not think that those who oppose the practice have given it a candid consideration, and feels it "somewhat unsatisfactory to be assured that no probang can pass beyond and between the vocal cords," and yet for this assertion to be followed by confessions that "a tube may be introduced for the purpose of artificial breathing."[2] The only wonder is that Dr. James should ever have imagined so strange a proposition as that because a smooth and open tube may sometimes be tolerated by the larynx, therefore breathing can be performed through a body impermeable to air. As for Dr. Alison's remark, it was evidently made while he was yet in his novitiate of the art and mystery of laryngeal cauterization. But that a physician of so much intelligence, information, and experience as Dr. Lawson should, in the face of demonstrations showing the all but physical impossibility of the operation, hazard so definite an affirmation as the one we have quoted, without affording us even a glimpse of the grounds upon which his conviction rests, is a fact which we are wholly at a loss to explain.[3] Dr. Lawson must know very well that the greater number of those who affirm the feasibility or the facility of the operation are justly open to the suspicion of a want of candour; several of them, indeed, being of that class who write thin octavos and puny duodecimos, full of startling assertions, as seemingly a more legitimate and certainly a more successful mode of advertising themselves than a paragraph published in the columns of a newspaper, but one not a whit more fitted to inspire confidence in their integrity or their skill.

As we have seen, Dr. Lawson assures us that for years he has been in the habit of introducing the sponge into the larynx, but offers us no proof of the fact except his own conviction, which is most respectable presumptive evidence, certainly, but not a demonstration. Dr. Lente, of Cold Spring, N. Y.,[4] appears also to have been astonished at the rashness of denying the possibility of the operation, for Dr. L. had a case which he thinks "completely settles" whether a sponge can be passed into the upper opening of the larynx, "and to a certain extent" also its passage through the chordæ vocales. On meeting with this statement, we eagerly read the writer's narrative, hoping to find in it a demonstration which elsewhere we had sought diligently but in vain. To our surprise it turned out that a patient had a small fistulous opening in the trachea, and when a solution of nitrate of silver was applied to the upper orifice of the larynx the edges of the opening were found to be stained. The author then adds: "This case establishes the fact that it is practicable to introduce *the sponge* into the larynx, and to introduce medicated solutions (*I do not say the sponge*) into the trachea." It of course proves nothing more than that the caustic solution entered the trachea on the application of the sponge to the laryngeal opening, a fact which we are not aware that any body has thought of calling in question.

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[1] The Medication of the Larynx and Trachea, p. 3.

[2] Sore Throat, &c., p. 42.

[3] The originator of the alleged operation, Dr. Green, pitched his description and laudation of it on a key which Dr. Lawson does not attempt to reach, and even awakes that much enduring bird, the American eagle, to a shrill scream in his behalf. He claims that the sponge probang "has been in a thousand instances" thrust down "between and beyond the vocal chords, and has been carried not only through the trachea and its bifurcations, but at different times, and in the presence of more than five hundred *different* medical men, has been passed at will, into the right or left bronchial divisions! I shall now give proof . . . of our ability, *as Americans*, to accomplish still more than this for the treatment of thoracic diseases; to perform operations of which conservative Englishmen and sceptical Frenchmen have never dreamed." (Amer. Med. Monthly, Jan. 1855, p. 11.) We had not supposed that Americans could thus impliedly be accused of carrying off the palm for credulity.

[4] N. Amer. Med.-Chir. Rev., ii. 78.

In truth, the weight of evidence against the assumption (for it is nothing more) that the sponge of a probang can be safely introduced into the larynx and trachea is wholly overwhelming. We need only remind our readers that in a report presented to the New York Academy of Medicine in 1855, by Drs. Parker, Wood, Metcalf, and Stone, of a committee appointed to test the assertions of Dr. Green, it is stated that in no single one of all the trials made by them did the sponge satisfactorily enter the trachea. "In two instances the sponge was thought to have entered the larynx; but with repeated efforts it could not be passed between and beyond the vocal cords. The suffocation was so great each time as to compel a withdrawal of the instrument."[1] It is also pretty well known that an anatomist and surgeon of no less eminence than Mr. Erichsen, upon purely anatomical grounds, as well as experiments, denies that the sponge probang has ever "in the living subject been passed beyond the true vocal cords."[2] Mr. E. very pertinently asks how should the sponge be withdrawn if it once had passed this barrier? The cords, like the edges of a buttonhole, would immediately close against the whalebone handle, and the sponge could only be extricated at the risk of lacerating the vocal ligaments and their investing membrane, or else the sponge itself might be left behind in the air-passages. In 1855, Dr. Horace Green, in a paper published in a medical journal,[3] and also presented to the Medical Society of the State of New York,[4] printed a letter from M. Trousseau, who says: "Never, either before or since the publication of your labours, have I attempted to introduce into the larynx or the trachea a sponge saturated with a caustic solution;" and Dr. G. leaves it to be inferred that his correspondent acquiesces in the justice of his own claim to have performed that operation. M. Trousseau's courtesy to a correspondent may have deterred him from expressing an opinion of its feasibility, but that he did not believe it possible, is very certain. Not only does he not mention affections of the larynx among those suitable for treatment by nitrate of silver, in the edition of his Therapeutics published in the same year, but in 1857 he is reported to have expressed himself as follows, in a clinical lecture:—

> "I have tried this operation very often after the directions of Dr. Green's treatise on the subject. I had tried it long before the appearance of that treatise, both on the living and on the dead subject. I have put all the good will possible into my experiments, and I have never been able to succeed. More than this, I have convinced myself that the operation, after this method, is impossible, and that it has never been accomplished by Dr. Green, or any one else."[5]

Dr. Ebert, of Berlin, is another of those who are unable to satisfy themselves that the larynx can really be entered by the sponge probang,[6] and the number might be indefinitely multiplied. For ourselves, we disbelieve it altogether, and confess that we need stronger reasons than any which have yet been adduced by its advocates to convert us from our unbelief to faith in an assertion which is at variance with our own observation, unsustained by direct proof, and against which every anatomical and physiological reason militates.

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[1] N. York Journ. of Med., July, 1855, p. 148.

[2] Lancet, Nov. 1855, p. 489, and Dec., p. 518.

[3] New York Monthly, Jan. 1855, p. 1.

[4] Transactions, 1855, p. 237.

[5] Med. and Surg. Reporter, Aug. 1857, p. 408.

[6] Edinb. Med. Journ., i. 54.

The operation of catheterism of the bronchial tubes for the purpose of injecting medicinal liquids, and especially a solution of nitrate of silver into the lungs, is spoken of favourably by Dr. Lawson, although less decidedly than laryngeal cauterization, because, as he remarks, he has had a less extensive experience of its effects. Dr. Green, by whom this method of treatment has been proposed, states that he was indebted to Dr. Marshall Hall for the suggestion of introducing an elastic tube into the larynx in order to show the passage of air through it, and prove thereby the possibility of introducing a sponge into the same organ. The analogy of the two experiments is not a very evident one, and its suggestion is not very creditable to the sagacity of Dr. Hall. It is singular, however, that Dr. Green, who borrowed from the treatise of MM. Trousseau and Belloc everything which he had before proposed in regard to the instruments used for the application of nitrate of silver to the larynx, even to the strength of the solution they employed, should have overlooked in that work a case of laryngeal disease reported by M. Fournet, who states that in its treatment he for the first time employed catheterism of the air-passages, which he also describes as an operation easily performed.[1] We pass by the absurdity of attempting to heal tuberculous cavities by means of any topical treatment whatever, to notice the question of the practicability, or rather the facility of introducing a flexible tube into the trachea, which M. Fournet represents as very great, and Dr. Green does not find difficult. On this point the Report made to the New York Academy of Medicine throws some light. It states that the operation had repeatedly been performed before, and even in ancient times; indeed, Dr. Green reminds us that in several cases of œdema of the glottis it had been used successfully by M. Sestier. It also states that with a tube having a large curve the attempt failed eight times out of nineteen, and when a tube with a small curve was used the failures were nearly constant. The apparent power of the patient to inspire and expire air through the tube was found still to exist, though in a less degree, when the tube was in the œsophagus. The opinion of the operator as to whether the tube is in the œsophagus or the trachea was also shown to be fallacious, unless founded upon the general phenomena. Indeed, these symptoms were only too characteristic. When the tube was in the œsophagus the phenomena were chiefly negative; the voice, however, was distinct, and retching and vomiting were usual. In the trachea, however, the presence of the tube, while it caused little or no retching, extinguished the voice and occasioned in every case but one most frightful evidences of suffocation. The committee concluded, therefore, "that in the great majority of instances where injections are supposed to have been thrown into the lungs through a tube, they have passed directly into the stomach." In Germany, Prof. Griesinger, of Tubingen, made numerous trials of the new method, and was at first disposed to regard it as easy of execution; but after longer experience he concluded that in nearly every case the tube had passed into the œsophagus, and had not entered the trachea at all. He was particularly struck with the inspiration and expiration of air which at first he supposed to come from the lungs; but he soon became convinced that if the stomach communicated with the atmosphere by an open tube, inspiratory and expiratory acts must be performed by this organ, as well as by the lungs, under the influence of the diaphragm.[1] We may therefore consider this newer invention in pulmonary therapeutics as having little more intrinsic value than its immediate predecessor, as being in fact little more than a new device in medical legerdemain.

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[1] Op. cit., p. 104.

A short chapter on the *prognosis* of phthisis concludes Dr. Lawson's work; it is less precise than we could desire, and yet more positive than we believe to be warranted by fact. Thus we find it stated, as the general professional opinion, that phthisis "is *measurably* if not absolutely incurable;" that the "precursory stage is *very largely* amenable to proper hygienic treatment;" and that "phthisis is, to *a certain extent*, a curable disease." On the other hand, we are assured, that "the present state of science justifies the assumption that tubercular exudation is susceptible of absorption; and, furthermore, that tubercular consolidations may liquefy and return to the circulation, or be eliminated through the bronchial tubes, leaving in either case a condition of actual cure." The correctness of the first of the assertions quoted above may well be questioned. We do not know where, in the literature of the subject, he will find such an opinion expressd as that phthisis is absolutely incurable, and as to its being "measurably" so, or "to a certain extent," we presume that whatever degree of incurability those words imply is admitted to exist. That the "precursory stage" is curable it is quite as impossible to deny as to prove affirmatively; that stage, as we have elsewhere shown, being a pathological figment. The absorption of tubercle, we must positively affirm, is not in the present state of the science a justifiable assumption. In physical science no mere assumption is justifiable. Nor can we for a moment admit that tubercle can liquefy and as such return to the circulation; nor yet that the cretification of tubercle or its elimination through the bronchial tubes can be regarded as an "actual cure." At the very most these changes indicate a suspension of the local manifestation of the tuberculous diathesis. Indeed, Dr. Lawson admits this to be true in many cases, and states that the "mitigation of the disease may prove only temporary, and at a period more or less remote, the morbid condition will reappear and progress to a fatal issue." Nothing can be truer than this, but it is not in harmony with expressions previously quoted.

If we examine the literature of phthisis, we shall soon be convinced that the idea of the absolute incurability of the disease was the offspring of an epoch almost fatal to the art of therapeutics, when inflammation formed the sole article of the pathological creed, when active measures for its cure consisted in the use of inordinate evacuations of blood and the secretions, and the mildest treatment was starvation. It was then that cases of phthisis ran their course most rapidly and least was said of even its temporary cure. But such a mode of cure was familiarly recognized even before the days of Auenbrugger and Laennec, and some writers claimed even more for medical art than its most sanguine advocates do at the present day. Sixty years ago Beddoes[2] wrote as follows: "Besides, shallow men, rendered insolent by success, loath to depart from prevailing opinions, have been satisfied to believe in the impossibility of *dispersing* tubercles, and, by consequence, of preventing or curing consumption in the great majority of instances." By way of proving the possibility of a specific being found for the disease, he cites the discovery of sorrel as a specific for certain scrofulous ulcers, and nitrous acid for some hepatic and venereal affections! And after charging physicians with timidity or indifference in regard to the subject, he refers to the twenty quarto pages of remedies for consumption published by Ploucquet! He then proceeds to state that "an effectual remedy for consumption appears to have been nearly ascertained," and this (the reader will scarcely believe it) was digitalis! "I daily see," he exclaims, "many patients in pulmonary consumption, advancing towards recovery with so firm a pace, that, I hope, consumption will henceforward as regularly be cured by foxglove, as ague by Peruvian bark." Yet, as we very well know, foxglove was destined to be added to the long list of remedies which he so unsparingly condemns.

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[1] Deutsche Klinik, Apr. and July, 1858, p. 151 and p. 285.

[2] Essay on the Causes, &c. of Pulmonary Consumption, Lond. 1799.

But, to go still further back, we find a higher authority than Beddoes vouching for the cure of consumption. Morton declares that crude tubercles do admit of a cure, either true or palliative, so that the patient "though he is sickly, and subject to fevers, even upon every little occasion, yet is able to do his ordinary business, and many times lives to grow old."[1] But this remarkable and astute physician did not strive to overstrain the truth, for he subjoins: "Every consumption, though it be cured, is apt to return upon the least occasion." "Yea, even after the most perfect cure of a consumption, there is reason to suspect that there are some crude tubercles yet remaining, which at length may, by often meeting with an occasion, be inflamed, and ripen into apostemes, and so at last become open ulcers." Modern science has not permitted a more favourable prognosis than this to be formed.

Tissot states, that the celebrated Swammerdam for many years expectorated calcareous concretions, and his lungs became a perfect quarry;[2] but his biography informs us, that he died in the last stage of marasmus at the age of fifty-three. Stokes refers to similar cases occurring in middle-aged persons.

Laennec, himself, declares that "art may perhaps render the progress of the disease slower, but not cause it to retrograde," yet he adds: "quite a number of cases prove that after the evacuation of a cavity, a cure is possible." (*Op. cit.*, p. 98.) And Laennec concludes, that "the cure of phthisis by nature is possible, but not by art." (p. 280.) Such, also, was Andral's belief, founded upon the examination of bodies in the lungs of which he found cicatrices, empty cavities, and cretified tubercles. Louis arrives at a similar conclusion, but adds this caution which we shall do well to heed: "Let us not delude ourselves respecting the virtues of medicines, but remember that in some cases the progress of the disease is spontaneously arrested and remains so permanently; while, on the other hand, after having remained stationary, for a long time perhaps, it may resume its course rapidly and without any apparent reason." (*Op. cit.*, p. 651.) A very elaborate investigation of the curability of phthisis by Rogée,[3] led him to conclude that tubercles may calcify when few in number, and that cavities may possibly heal, leaving a permanent loss of substance, or a cicatrix with calcareous or fibro-cartilaginous or cellular matter. On these grounds the author indulges the hope that many tuberculous patients will hereafter be saved, while he frankly confesses that thus far the cures appear to be generally due to the efforts of nature alone. Rokitansky likewise describes the cure of tubercle as possible by shrivelling (Obsolescenz), cretaceous transformation, or elimination after softening; but, he adds, this is of little consequence to the consumptive patient unless the tendency to tuberculous deposit ceases at the same time.[4] Dr. Stokes separates phthisis into two varieties, the constitutional and accidental, "in both of which" he affirms that "we may effect a cure;" but the reader of the present day will be surprised to learn that the treatment upon which this eminent physician depended when he wrote the words we have quoted, consisted among other things of leeches and mercury.[1] But these opinions were published twenty-five years ago, and were among the fatal fruits of the theory of the inflammatory origin of tubercle. Forget, a late eminent professor of Strasbourg, concludes his investigations relative to this matter as follows: "The only cases of tubercle susceptible of a permanent cure are those in which the deposits are small, few, scattered, and either remain undetected or of doubtful existence while the patient lives: other cases may undergo apparent cures, but they are only temporary, and sooner or later terminate fatally."[2] Dr. Pollock has observed that many persons get rid of all constitutional and local symptoms, and their health may be restored for years, but, he adds, "that such individuals eventually sink under the disease is true."[3] Dr. Edward Smith, in an essay on "The Curable Stage of Phthisis," (which is that hypothetical "pretubercular" stage already noticed in this article,) declares that while a cure, properly so called, may occur after the deposit of tubercle, it really does so in but an infinitely small number of cases, and in *none* are we able to predict so favourable an issue.[4] It is well known that Dr. Bennett has enthusiastically maintained the curability of phthisis, and that nature herself accomplishes the cure in "a vast number of cases." When he adds that she has done this in its incipient stage—*i. e.* by calcification of tubercle—he states what facts hardly warrant, except in the cases of persons past middle life in whom the disease, if such it can be called, is latent. He refers to six cases in the advanced stage of the disease in which the arrestment of the disease is ascribed by him to art,[5] and particularly to cod-liver oil; yet he admits that any thing which will rouse the nutritive functions may produce the same effect. So Dr. Flint finds that in eight out of twenty-four cases of arrest of tuberculosis the cure "was evidently due to an intrinsic tendency to that result,"[6] and that in the rest it depended upon a complete change of habits, from sedentary and indoor pursuits to active and even violent exercise in the open air. Upon the question before us no man living can speak with greater authority than Dr. Walshe, and he gives no flattering prospect to the victims of consumption. He ignores entirely that limbo of a "pretubercular stage" in which the patient is not sound enough for health, nor diseased enough to be called tuberculous; he describes what Laennec and Louis so distinctly mention, that in phthisis the patient may go through successive attacks resulting from the maturing of successive crops of tubercles; and concludes that in a very small proportion, *so small that it may be ignored*,[7] an actual recovery takes place. Elsewhere (p. 387) he estimates the proportion of those in whom a complete restoration of function and the disappearance of active pulmonary disease takes place at four and a quarter per cent. In the excellent essay of Dr. C. Radclyffe Hall[8] the doctrine which we consider to be the true one upon this subject is stated in the following words:—

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[1] Phthisiologia, p. 123.

[2] Œuvres, iii. 59.

[3] Archives Gén., 3ème ser. v. 191, 289, 460.

[4] Path. Anat., 3tte Aufl., i. 308.

"Of the absolute frequency with which such healing of a cavity takes place, we have no positive knowledge; probably it is not extremely rare; but of the infrequency with which it *so* takes place that the patient eventually recovers from his phthisis, we have sadly too established a conviction. The possibility of such a cure is quite certain; but that we have a right to anticipate it in any case of undoubted tuberculous cavity in the lung, all experience forbids."

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[1] Diseases of the Chest, 1837, pp. 442 and 447.

[2] Bull. de Thérap., xxxiv. 16.

[3] Lancet, Aug. 1856, p. 187.

[4] Edinb. Med. Journ., ii. 689.

[5] Tuberculosis, p. 112.

[6] Am. Journ. of Med. Sci., Jan. 1858, p. 78.

[7] Am. ed., 1860, p. 377.

[8] Brit. and For. Med. Chir. Rev., xvii. 468.

We might multiply these citations from authors whose conclusions have the weight of laws in pathological science, and especially from among the great teachers of German medicine, but these will perhaps satisfy the reader that the sanguine expressions of faith in the power of medical art to cure phthisis are misplaced and premature, and that we should expose ourselves to less chagrin and our patients to less sorrow by admitting the unquestionable truth that in any given case of phthisis there is not one chance in a hundred of death being averted even for a few years. Not to recognize this probability, while we employ every means in our power to render each particular patient the fortunate exception to the law of mortality which weighs upon those affected with pulmonary tubercles, would be to close our eyes against the most evident conclusions of experience, and forswear our duty to those whom we are bound to serve. We should rather present to them the danger in its full proportion, and make its very magnitude a motive for them literally to *work* out their salvation from the fate which hangs over them.

The prognosis of acute phthisis would seem, contrary to what has generally been supposed, to be less unfavourable than that of the chronic form. Lebert claims to have seen not less than six examples of its cure. Four of these patients afterwards died of other diseases, and exhibited in their lungs the clearest evidences of cured miliary tuberculosis.[1] Several have also been published by Wunderlich.[2] The difficulty of diagnosis in this disease must throw a shade of doubt upon the nature of some of the reported cases, but the proof in those of Lebert is complete. A. S.

ART. XI.—*Sanitary Science.*

1. *Proceedings and Debates of the Fourth National Quarantine and Sanitary Convention, held in the city of Boston, June* 14, 15, *and* 16, 1860. Reported for the City Council of Boston. Geo. C. Rand and Avery, City Printers. Boston, 1860.
2. *Public Health. The Right Use of Records founded on Local Facts;* being two papers read before the National Association for the Promotion of Social Science, at Bradford, in October, 1859; with an account of subsequent proceedings. By HENRY WYLDBORE RUMSEY, Author of "Health and Sickness of Town Populations," "Essays on State Medicine," &c. London, 1860.

WHATEVER may have been the doubts of a few in anticipation of the meeting of the first Quarantine and Sanitary Convention of the United States, in 1857, there can be no question at the present date that it and those which have succeeded it have been productive of useful and important results. The difficulties attendant upon the inauguration of such an effort

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[1] Handbuch d. prakt. Med., ii. 115.

[2] Archiv d. Heilkunde, i. 289.